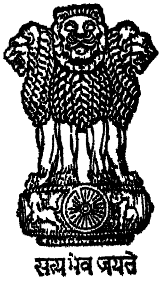

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LORD DARESBURY, C.V.O.,

Honorary Director, Royal Shows, 1906–1930

JOURNAL
OF THE
ROYAL AGRICULTURAL SOCIETY OF ENGLAND

LORD DARESBURY, C.V.O.: 1905–1930.

Visitors to the Royal Show at Warwick will miss the familiar figure of Lord Daresbury, mounted on his pony, leading the Royal procession, or supervising every detail of England's premier Agricultural Show: the cigarette and its holder, the cheery smile of encouragement to his lieutenants, the nod of recognition to all and sundry, the short but pithy advice, are memories we cherish. Elected a member of the Society in 1892, a Governor in 1894, a Member of Council in 1904, in December 1905 Honorary Director, Vice-President in 1908, President in 1910 at Liverpool and again in 1925 at Chester, a unique distinction in recent years, Lord Daresbury has been for a quarter of a century the guiding star of the Society as its Honorary Director, and in laying down his office he carries with him the regard, appreciation, and gratitude of all who have been privileged to collaborate with him. When in 1905 he was called to assume the all-important rôle of Honorary Director the Society was in troubled waters: losses had been incurred at Park Royal and on several previous shows, and the financial position of the Society was severely strained and it was absolutely vital to the continual progress of the Society that the Shows should be self-supporting in future: to-day the Society can boast a reserve fund of over £150,000, in some measure due to other economies, but in the main the result of profits from the Annual Shows of the last 25 years. Lord Daresbury did not desire nor attempt to change the main features of the Annual Show, which had always produced a magnificent exhibition, but he at once proceeded to secure the co-operation of the Breed Societies and other associations to whose welfare the success of the Show is so material a factor and to secure a welcome to the Society from the chief centres of the country: he was completely successful: from Cardiff to Reading, and from Reading to Newcastle, the agriculturists of the various districts have come to see the exhibits, staged to perfection, whether of Stock or Agricultural Implements, and from none has Lord Daresbury likewise received more generous and willing support than from the Implement Exhibitors: to the exhibits of Stock, Implements, and Produce has been added a Horticultural Exhibition, which is always a most attractive feature. Lord Daresbury allotted to his Stewards their special task and having done so left them to it but was ever at hand with counsel and advice: to such a leader they gave of their best, and with their loyal help, and that equally of the Secretary and the officials of the Society, Lord Daresbury has increased the fame of the Society's Shows, and rendered the term of his Honorary Directorship a memorable one indeed. Nor would this short article be complete without special mention of the debt that the Society is under to Lady Daresbury also—none but those most intimately acquainted with the arrangement of the Show can fully appreciate the volume of that debt—to other members of his family, and to Mr. Bainbridge, his agent and private secretary.

The good wishes of the members go out to his successor, Mr. Roland Burke, who is to be congratulated on having at his disposal Lord Daresbury's experience and wise counsel, and the hope of every member is that Lord Daresbury may be long spared to visit the shows in a less exacting rôle, and to continue to serve our great National industry of agriculture.

CORNWALLIS.

Linton Park,
Maidstone.

COLLEGE AND INSTITUTE FARMS.

THE general scheme of agricultural education in England and Wales is supported by grants-in-aid from the Ministry of Agriculture.

In its higher forms, agricultural education is provided at *University Departments of Agriculture* and *Agricultural Colleges*, all of which run their own educational farms.

In addition most of the counties of England and Wales make provision for agricultural education, usually through a permanent staff of instructors. Seventeen counties (two conjointly) possess *Farm Institutes*, or central teaching institutions, which serve, also, as the headquarters of the County staff and form the pivot round which the various agricultural educational activities of the county revolve. All the Institutes (with one exception) possess farms and the instruction is closely co-related with practice. Gardens, dairy and poultry plant go with the farm. In the case of other counties provision is made for demonstrations and experiments either on private farms or on stations conducted by the County Council.

Finally there are a number of *special Institutions* with farms attached, which are not directly associated with County Councils or Universities, such, for example, as the well-known Experimental Station at Rothamsted, the Chadacre Agricultural Institute in Suffolk, conducted on Farm Institute lines by the Trustees of the First Earl of Iveagh's Foundation, and the Avoncroft College near Evesham where the aim of the curriculum is to offer an education which, while based on the science and technique of agriculture, shall also promote and stimulate an interest in life in its wider aspects.

The main distinction between the forms of agricultural education provided by Colleges and Institutes is that, at the former, the courses extend over two or more years and lead up to a degree or diploma, often with a view to a professional appointment, while at the latter the courses do not, as a rule, exceed 30 weeks and are intended primarily for lads and girls who desire to lead an agricultural life at home.

Neither the Colleges nor Institutes lay themselves out to teach the technique of farming, and it is generally laid down that before taking an institutional course it is very desirable—and in some cases an essential requirement for admission—that the student should have had some practical experience of farm work. Practical instruction at these institutions is, as a rule, directed to perfecting certain of the more important routine processes of the ordinary farm, e.g. milking in relation to cleanliness.

Before describing some of the characteristic features of the various farms it may be well, briefly, to outline the general policy under which such farms are run.

OBJECT OF COLLEGE AND INSTITUTE FARMS.

College Farms. When these farms first came into being there were no very clearly defined views as to how a College farm should be conducted, and the resultant policy was usually a compromise between farming on experimental, and farming on business, lines. This confusion of aims inevitably resulted in uneconomic working, and tended not only to hamper the educational activities of the institution, but to bring discredit to it among the farmers of the College district.

While it is impossible on such a farm completely to reconcile the needs of the student with those of the practising farmer (and the requirements of the student must obviously come first) it is gradually being realised that the successful working of a farm gives rise, spontaneously, to so many problems of educational interest and of immediate economic importance, that the invention of problems or the specific pursuit of scientific investigations or experiments of a fundamental character may suitably be left to the research stations. The College farm is the second stage in the evolutionary development of scientific agriculture. A certain experimental area is, of course, necessary, but this is usually quite small and the expenses connected with it are generally debited to a separate account. In many cases, however, it has been customary to carry out manurial demonstrations, variety tests of crops and the like on ordinary farming land with the idea of interesting students and visitors, but it is now generally realised that unless such plot experiments are conducted with exceptional care and rigour, with at least fourfold repetitions, the results are unreliable.

New varieties of crops are now being largely confined to the experimental area and the most promising are demonstrated on a field scale. The same considerations hold good for livestock, and a minimum of disturbance of the normal routine of the farm is involved.

Thus the ground is cleared for a demonstration of farm management. The farm can be conducted, mainly, on sound commercial lines and aim at obtaining a profit which is, after all, in the opinion of most farmers, the real expression of a worth-while technical education.

With a view to single executive control the farm is now, as a rule, managed by the teacher of agriculture under the Farm Committee. Only in this way is a teacher enabled to keep abreast of the practical experience that gives authority to his teaching, and to be sufficiently familiar with the details of labour organisation and of farm finance which he requires in the class room. Some system of cost accounting is adopted on all College farms.

Institute Farms. The farm attached to a Farm Institute fulfils, in a large measure, the same functions as those of the College farm. The students at a Farm Institute, however, are normally only in attendance for 20 weeks during one winter or, in some cases, for a further period of 10 weeks in summer. They do not see a full year's operations and their instruction is confined mainly to the principles underlying farm practice. Thus the farm serves rather to keep the staff practical than to make the students practical. And this is no unimportant consideration as agricultural advisers with the day-to-day experience of running a farm will readily admit. All of the Principals of Farm Institutes have had a College training supplemented, invariably, by some years of practical farming experience, but when it comes to running a farm on their own responsibility they realise that the business has to be learned from the beginning and that it is only after a process which is largely trial and error, though, doubtless, shortened and simplified as a result *of their educational training, that they can safely determine the* farming policy.

A Farm Institute is more closely identified than a College with the local farming community and is charged much more directly with the duty of giving demonstrations and conducting experiments for the benefit of the county farmers. Because, however, of the costliness of experiments it is generally found necessary to limit this kind of work to well defined issues likely to be of permanent value rather than to attempt a large number of trials, the results of which are indecisive and cannot form the basis of definite recommendations to practical farmers in the neighbourhood.

As in the case of College farms, it is becoming the rule to differentiate experimental work from the rest of the farm which is run as a business concern. Similarly, it is recognised that for the personal guidance of the farm manager (who is generally the Principal of the Institute) and for teaching purposes "working" accounts, at least, must be kept, embracing records of cash, labour, stock, feeding-stuffs, manures, crops, milk yields and so on. Loan service charges and expenditure of a capital nature are excluded from these farm accounts and replaced by an "economic rent." The ideal aimed at, and now commonly attained, is a system of cost accounting and nothing has done more to bring home to agricultural educationists the transcendental importance of shaping the farming policy in accordance with economic facts. Instead of drifting helplessly towards an unmanageable volume of production, the educationist is beginning to see the necessity of dealing with farming as a business and not only as a science. An agricultural teacher realises that he must keep a grip upon reality, otherwise there is a danger that a student setting out to farm on the basis of an institutional education may have to face a bewildering and costly period of disillusionment.

UNIVERSITY AND UNIVERSITY COLLEGE FARMS.

Of these there are nine, viz. University College of Wales, Aberystwyth; University College of North Wales, Bangor; and the following University farms:—Bristol (Royal Agricultural College, Cirencester), Cambridge, Leeds (Yorkshire Council for Agricultural Education—Askham Bryan Farm, near York), Durham (Armstrong College, Newcastle-upon-Tyne—and the Northumberland County Council Experimental Station at

Cockle Park), Oxford, Reading, and London (South-eastern Agricultural College, Wye, Kent).

The farms range from about 40 acres (Royal Agricultural College) to 855 acres (including 410 acres of hill grazing) at Bangor. In general, they run from about 320 acres to 550 acres.

The Welsh farms are mainly concerned with stock-raising and the production of milk, special attention being given to the improvement and development of the more popular native breeds. The Welsh Mountain sheep from Bangor are invariably prominent in the principal showyards and the Professor of Agriculture is regarded as a leading authority on Welsh cattle and sheep.

Stock, particularly dairy cattle, is likewise a prominent feature at most of the English educational farms, but greater or less attention, as befits the local conditions, is also devoted to corn-growing and general mixed farming.

At the *Cambridge University* farm (400 acres) which adjoins the Plant Breeding Station directed by Sir Rowland Biffen, prominence has been given to trials of new cereal hybrids of which the "Yeoman" and "Little Joss" wheats are unsurpassed among varieties under certain conditions of soil and climate. Stock-feeding experiments, identified with the work of the late Professor T. B. Wood, have for many years engaged attention at Cambridge and, latterly, the work of Mr. Alfred Amos and of Dr. Woodman and his colleagues on silage, sugar-beet pulp and young, leafy grass has been of great interest and value to the industry. The heavy-land portion of the farm is worked on a rotation which includes "seeds," single cut, followed by a bastard fallow in place of a root or other cleaning crop, then by cereals, beans and silage. The light land is cropped with cleaning "cash" crops and cereals in suitable alternation. Poultry, as a complete farm unit, has recently been added.

At *Oxford* the University farm was recently relinquished and at present educational facilities have been made available by the Governing Body of Christ Church on their home-farm of 370 acres at Worton. The farm consists of arable and grass on a variety of soils, and also a market garden. The stock are pedigree Dairy Shorthorns, Ryeland sheep and commercial pigs.

Leeds University utilises the farm (312 acres) of the Yorkshire Council at Askham Bryan, near York. This farm is mainly arable, but a considerable portion has recently been sown down, with apparent success, to long leys or permanent grass. Pending the establishment of a dairy herd attention is being devoted to stock-rearing and feeding. Commercial shorthorns of dual-purpose type are being crossed by an Angus bull for the production of young beef, and the results so far obtained show this to be a very effective means of increasing the output of first-class English beef. Comparative trials of different breeds of ewes commonly used in "flying flocks" are also being made. The farm maintains a long established herd of Large White pigs.

The same authority has conducted for several years an arable dairy (demonstration) holding at Rawcliffe, near Goole. This holding extends to 32 acres of light land of which only a small paddock adjoining the homestead is in permanent grass. About 16 cows are maintained in milk. In the early years a policy of successional green-cropping and soiling was followed, but latterly, temporary leys and grazing have been adopted and potatoes have been introduced to cash the surplus fertility. Financially, the experiment has proved successful. It is interesting to note that the working man in charge is paid £4 10*s*. per week, out of which he finds all additional labour required. After interest on capital is paid he takes the profit.

The farm of *Cockle Park* (460 acres) associated with *Armstrong College* (*Durham University*) is famous as the site of much valuable experimental work conducted successively by Somerville, Middleton and Gilchrist. The widespread use of basic slag as a means of improving poor pasture and of wild white clover as a constituent of seed mixtures for temporary and permanent grass is due largely to Cockle Park. The work continues, with suitable modifications. Owing to its situation —about 500 feet above the sea in a bleak part of Northumberland —and the heavy and wet character of much of the land, little arable farming is attempted. The farm, however, is heavily stocked with breeding cattle and sheep. High-class store cattle are produced mainly by crossing Shorthorn and Galloway cows with Angus and Shorthorn bulls. The stock are mainly out-wintered with access to wooden shelters in the fields or to the lee-side of coniferous belts planted in the time of Somerville. The ewes are mostly "Half-breds" and "Mules."

At *Reading* the University farm of 140 acres is supplemented by a second farm (359 acres) at Shinfield, acquired for the purposes of the National Institute for Research in Dairying, which forms part of the University. The main activities, here, are concerned with clean milk production and the breeding of dairy stock. The progeny test for males, adopted in Scandinavian countries as the most reliable means of improving the milk output of the dairy herd, has been amply vindicated at Shinfield.

Wye College (*University of London*) farm extends to about 585 acres, of which about half is good arable land, the rest being pasture, gardens, &c. The dominant note in the farming policy is business and this applies not only to the farm proper but to 60 acres devoted to market gardening including commercial fruit-growing and glasshouse crops. Provision is made for practical instruction in forestry, and about 11 acres are devoted to the raising and testing of new varieties of hops. Poultry forms a special feature, covering most of the thin chalky slopes on the lower downs and embracing the Southern Table Poultry Breeding Station under the National Poultry Institute. No regular farming rotation is followed, reliance being placed on full crops and an occasional bastard fallow together with a small area of mangels and potatoes to keep the land clean.

Cereal yields are normally several quarters per acre above the average for the country and on the whole, corn-growing has been profitable. As showing, however, the influence of season, corn yields in 1930 were about 2 qrs. per acre less than in 1929 with practically identical treatment.

Agricultural engineering is one of the departments of the College and in the ordinary farming operations full use is made of machinery.

The farm carries a large flock of sheep and has recently been instrumental in introducing to favourable notice some of the breeds of grass sheep now spreading over the Midland and Southern Counties. It is also a centre for pig research.

Harper Adams Agricultural College occupies a productive farm (340 acres) of arable and pasture land and includes a separate holding of 40 acres devoted to a demonstration of the possibilities of intensive dairying. A herd of about 20 deep-milking cows is maintained and it has been clearly demonstrated that under a system of heavy concentrated feeding, carefully controlled and associated with three-times milking, very large yields of milk can be obtained. Whether such a system is financially profitable at ordinary wholesale prices has not been proved.

Important questions relating to pig-feeding such as the economical use of milk, and the relative values of animal and vegetable protein have been under investigation at this centre. As showing the significance of individuality even among animals with comparatively simple digestive apparatus, differences amounting to 10 per cent. in rate of gain have been obtained with pigs of the same breed, same age and by the same boar, when all were fed and housed exactly alike.

The poultry department of the College is merged in the National Institute of Poultry Husbandry and occupies a site of 27 acres.

Midland Agricultural College, Sutton Bonington. A farm (200 acres) of somewhat light land which before occupation by the College was largely arable and devoted mainly to corn, potatoes and sheep-folding, has been successfully adapted for milk production and now maintains a very useful herd of dairy

Shorthorns. Instruction in dairying has always been a special feature of this College and full use has been made of dairy by-products for pig-feeding. Interesting records bearing upon commercial aspects of pig-husbandry have recently been made available.

Royal Agricultural College (*University of Bristol*). The land attached to this College extends to about 50 acres, of which 40 acres constitute a small farm devoted to milk production.

Seale-Hayne Agricultural College, Newton Abbot. The farm consists of 300 acres of which about one-third is arable, and includes a small holding established to demonstrate the new intensive method of grassland management. High yields (three-times milking) coupled with a high price for milk resulted in a favourable balance sheet in the first twelve months. In recent years exhibits of cattle and sheep from this College have been prominent winners at some of the leading shows.

The Horticultural College, Swanley, Kent, and *Studley College, Warwickshire,* are devoted exclusively to the education of women.

The former occupies 58 acres, of which 20 acres are devoted to fruit, 15 acres to vegetables, glass, &c., the rest being meadow and arable. A small dairy herd is maintained.

Studley College is surrounded by its estate of 340 acres which includes about 40 acres of gardens and grounds and a farm, mainly grass, of 240 acres. There are very good herds of dairy cows and Large White pigs, and the farm also carries a flock of Half-bred (Border Leicester × Cheviot) ewes. The soil is heavy and lies wet in winter but is gradually being improved by mole draining.

INSTITUTE FARMS.

Of Welsh Institute farms there are four, namely, *Madryn Castle, Caernarvon* (250 acres including 86 arable); *Piburlwyd, Carmarthen* (210 acres); *Llysfasi, Denbighshire* (600 acres, including 400 acres of hill land), and *Usk, Monmouthshire* (300 acres, including 85 arable).

There are also two demonstration holdings—*Tregroes, Glamorgan* (100 acres, mainly grass); and *Padeswood Hall, Flintshire* (35 acres, mainly horticulture).

In all of these holdings farming policy is based on local conditions and designed with a view to local developments. Financially, the results compare favourably with those of English farms.

Cheshire County Council: Reaseheath, Nantwich. Two farms are worked in connection with this Institute; one, a mixed holding of 200 acres, stocked with a dairy herd of about 60 cows, pedigree pigs and a " flying flock " of sheep, is run on commercial lines; the other, a small holding of about 50 acres, half arable, is devoted to milk production and field experimental work.

Reaseheath is a notable instance of the separation of the experimental from the commercial aspect and of the combined use in the teaching curriculum of data obtained from both sources. The adoption of this plan has been advantageous alike from the educational and the financial point of view. The small holding was for some years used as a demonstration of intensive arable dairying producing green crops for soiling and silage. Gradually, the grazing area has been extended by laying down to grass and the new leys have been grazed and manured intensively on Warmbold lines. There is little doubt that the response to complete manuring and successive dressings of nitrogen is greatest when the medium is a carefully selected modern seeds mixture, but caution must be exercised with regard to the closeness of grazing and mechanical cultivation of the new pasture.

The Northern Poultry Breeding Station is situated on the estate.

Cumberland and Westmorland County Councils: Newton Rigg, Penrith. The farm comprises 167 acres of good land of which 70 acres are arable. A fine herd of north-country, dual-purpose Shorthorns is maintained, representatives from which figure prominently at local Shows and Sales. Both breeding and feeding sheep are kept, the latter being drawn chiefly, and with good results financially, from the lower-priced lambs of Mountain breeds.

Durham County Council: Houghall Farm, Durham. This farm extends to about 350 acres of fertile, free-working soil bordering on the river Wear. Originally devoted to corn, potatoes and sheep-folding it is now being gradually adapted for dairying and sheep-grazing. Its chief characteristic feature is its luxuriant new pasture. The soil is naturally deficient in lime and a quick response is obtainable from lime dressings both on arable and on old grassland: in the latter case, however, only when the old turf has been ploughed out and resown.

Hampshire County Council: Sparsholt, Winchester. The farm of 250 acres, about half arable, is typical of the chalk land of the county and is stocked with dairy cattle, pigs and a flock of Ryeland sheep. With a view to reducing expenditure some of the arable has recently been sown down, and although the soil is thin and the rainfall low, promising results have been achieved, more particularly from mixtures containing some of the coarser, deeper-rooting grasses along with wild white clover. Lucerne has proved difficult to establish.

Hertfordshire County Council: Oaklands, St. Albans. An estate of 300 acres comprises the farm (230 acres, half arable), fruit plantations and gardens (14 acres), glasshouse nursery (1¼ acre), and poultry department (9 acres). This centre is characterised by a commercial outlook in all departments. Detailed costing records are carefully analysed, and one is left in little doubt as to which branches of the industry are paying and which are not. In shaping policy a real attempt is made at adjustment to changed conditions. At the same time attention is not deflected from the wider aspects of education.

In addition to a herd of Dairy Shorthorns for milk, Angus and Galloway cows have been specifically kept for the production of high quality young beef, and it is interesting to note that beef of even greater quality and the greatest weight-for-age is commonly obtained through the Dairy Shorthorn herd.

The laying down of land to grass, the improvement of old pasture by intensive manuring and rotational grazing, and the successful establishment of lucerne by inoculation, are some of the more interesting special features.

The commercial glass unit is the first of its kind to be established at a Farm Institute.

Holland (Lincs.) County Council, Kirton. On a farm of about 100 acres, practically all arable, work is concerned chiefly with experiments on market-garden and allied crops. This County contains some of the richest and most highly cultivated land in England on which farming is interwoven with market-gardening, seed-growing, bulbs, &c. Intensification is not infrequently accompanied by a corresponding susceptibility to diseases and pests, the control of which is one of the functions of the Kirton Institute. Data of considerable local importance have been accumulated with regard to the manuring of potatoes and sugar beet, and the economic utilisation of surplus potatoes. The quantity of phosphate required for potatoes is relatively small and, in the normal course, no pecuniary advantage is obtainable from the use of fertilisers for sugar beet.

Kent County Council: Borden, Sittingbourne. A farm of 250 acres includes 72 acres of fruit, 10 acres of hops, 125 acres of arable (farm and market-garden crops) and 40 acres of grass. The farm is heavily stocked with cattle and sheep, and provision has recently been made for a small dairy herd and 1,000 laying poultry.

Here is an instance of market-gardening with an alternative market through farm live stock and of land carrying two crops and a flock of sheep simultaneously, viz. cherries with sheep grazing underneath. A similar degree of intensification is practised in the rearing of calves. From the milk of two cows, carefully distributed and supplemented, as many as twenty healthy and thriving calves have been reared in one season.

Lancashire County Council: Hutton, Preston. The farm extends to 302 acres, 60 acres of which are arable. Dairying is one of the principal subjects of instruction, and the farm carries a fine herd of over 70 cows together with a large number of pigs. This centre is noteworthy as being the first in England to test the Calmette-Guèrin system of inoculation for the prevention of tuberculosis in cattle. A large measure of success is claimed for the treatment.

Northampton County Council: Moulton. The farm comprises 175 acres of which 65 acres are arable, and the soil varies from light sand on the lower ground near the homestead to heavy clay on the more distant uplands. Special attention is paid to the breeding and feeding of live stock. A very good herd of Dairy Shorthorns is kept, the records of which show that high yields are not alone obtainable by heavy concentrated feeding and no roots. The disposition of the soils of this farm has necessitated certain adjustments of the original cropping scheme in order to meet the requirements of the dairy herd and for general economic reasons. Accordingly, useful information has been obtained with regard to the laying down of land to grass and the food requirements of cattle wintered out with access to shelter. Pigs, both pedigree and first-cross, have for long been a special feature of this farm. The breeding, feeding and general management of pigs, and the needs of the market have been thoroughly studied and the Principal is a well-known authority on this subject. Exhibition at Shows and annual sales of the farm live stock, invariably attended with success, have proved useful propaganda.

Somerset County Council: Cannington Court, Bridgwater. Attached to this Institute is a productive farm of 178 acres of which 78 acres are arable. The primary interest is dairying (cheese and butter-making), and good herds of dairy cows and pigs are run in connection therewith. This farm also makes a speciality of early fat lamb. A flock of Dorset Down ewes bring lambs in November and December which are fattened off along with draft ewes, at or before Easter. This useful, medium-sized breed seems to be equally at home on grass or arable and might conceivably be taken up in other suitable localities where, owing to the spread of spring-lambing grass sheep, markets are often glutted with summer lambs, and, incidentally, with fat ewes.

Staffordshire County Council: Rodbaston. A mixed farm of 315 acres contains 113 acres of good arable land. A few years ago some of the pasture was a peaty, rushy swamp, uninhabitable by stock except in summer. As a result, however, of opening ditches, slagging and mowing, this area is now devoid of rushes and will carry stock confortably throughout the year. Of all Institute farms that at Rodbaston carries the greatest head of dairy cattle. North Country Shorthorns are preferred and depreciation is offset by good yields and a satisfactory local demand for graded and bottled milk. This farm also runs a herd of pedigree Large White pigs and at periodical farm sales secures very satisfactory prices for surplus pigs and young dairy cattle.

Chadacre Agricultural Institute, Hartest, Suffolk. An estate of 600 acres, including 100 acres of woodland, was acquired by the first Earl of Iveagh for the purpose of founding and endowing an Institute for the sons of agricultural workers and small farmers residing in Suffolk and adjacent Counties. The farm comprises 260 acres of arable and 200 acres of grass and carries a large head of stock of all kinds. Practical instruction in general farm and estate work is a special feature and the farm is run on strictly commercial lines. The soil, typical East Anglian Boulder clay, affords a striking instance of the successful application of modern temporary seed mixtures to rotational cropping in a dry climate.

East Sussex County Council: Plumpton. The farm consists of about 420 acres, mostly grass, and carries a large head of dairy cattle, grazing bullocks and pigs. Although situated in a dry district, this is probably one of the most productive grass farms in England. The usual effects of drought seem to be largely mitigated, in this case, by a dense sole of luxuriant mixed herbage not too closely grazed.

As showing the beneficial effect of good keep and fresh ground, some emaciated sheep badly infested with stomach worms and brought on to this farm for observation purposes quickly recovered health without treatment, and although, owing to sheep troubles in the past, only cattle have grazed the pastures in recent years, it has now been resolved to resume sheep-breeding.

Trials with regard to the feeding of concentrates to cows at grass indicate that good pasture is adequate for normal yields.

West Sussex County Council: Kingsham. Although a farm of about 150 acres was acquired for the purposes of an Institute, provision has not as yet been made for central teaching. The farm, therefore, is used mainly for demonstation purposes and as a "field laboratory" for the County staff. A complete record of costs is kept and used with good effect in advisory work. Stock consists of dairy cows, out-wintering bullocks, pigs and poultry.

Special attention has been devoted to the cultivation of lucerne and this crop now forms part of the regular rotation.

Norfolk Experimental Station, Sprowston. This is a privately owned farm made available for the benefit of Norfolk farmers and for a staff of agricultural Instructors appointed by the County Council. It extends to 184 acres, mostly arable, and is typical of the root and barley land of the County. Its work is concerned mainly with the interests of arable farmers and a special feature is made of sugar beet. This crop occupies the greater part of the root "shift." Sugar Beet tops and pulp are used for stock-feeding throughout the winter and their nutritive value has been determined in carefully controlled experiments.

The farm is run on commercial lines, and both from an educational and financial point of view has been very efficiently managed.

Rothamsted Experimental Station. Reference is made to the farm at Rothamsted solely to indicate that even at the fountain head of research there is now a distinctly practical outlook on the problems of contemporary farming.

For 88 years the purpose of the work at Rothamsted has been "to discover the principles underlying the facts of agriculture." This purpose remains, but the application of the work which until recently was to the increase of food production, is now to the reduction of costs. The farm (as distinct from the experimental plots) which was taken over in 1911, was cropped until 1920 without stock. Much of the land has now been laid down to grass, a flock of sheep has been introduced, about 20 sows run out, living mainly on grass, and young well-bred cattle are fattened over the winter.

Problems such as the following are now being studied:—the behaviour in relation to one another of the various plants in a "seeds" mixture; longer leys and the combination of arable and grass is one system; the extension of the grazing season; the cultivation of lucerne and of cheap winter foods; the fattening of young animals on grass; the substitution of cash cleaning crops for the ordinary root crops; the use of poultry and pigs in the conversion of home-grown produce; and similar problems of direct interest to large numbers of struggling farmers.

GENERAL REVIEW.

In the early years of their existence both College and Institute farms were regarded by those in control mainly as centres for experiments. Plots were laid down to illustrate text-book principles, and to ascertain the effect upon crops of manures applied singly and in various permutations and combinations, all contrasted with no manurial treatment. The object was the discovery and demonstration of fundamental truth regardless of immediate pecuniary benefit to the practical farmer. Gradually a comprehensive scheme of agricultural education has been evolved: research and fundamental experiments are now matters for special stations set up for the purpose, and the farms in question are free to devote themselves to the exploration of their own problems and to the demonstration of scientifically ascertained facts with a view to bringing the lessons of agricultural science closer to the farmer.

It is obvious that the lessons of scientific research will not be adopted by the general practitioner unless they are economically sound. Consequently the policy of educational farms is framed, as far as possible, with a view to a profit. In pursuit of this aim such farms have sometimes to face considerable handicaps, as will presently be seen. On the other hand they are not normally short of capital or equipment and they possess what ought to be a great advantage, a scientifically trained staff with ready access to the latest scientific knowledge.

Nearly all of the College and Institute farms maintain a milking herd, and dairying in its several forms or combinations of milk-selling, butter-making and cheese-making, plays a large part in the general farming policy. In certain cases this policy is artificial in the sense that it is not wholly determined by economic considerations. Cheese-making, for example, on the ordinary farm is not normally practised in winter ; its economic production depends upon a supply of cheap summer milk. For the convenience, however, of students in cheese-making areas who cannot conveniently be spared from the farms in summer, courses of instruction are, in some cases, given in winter. The conversion of winter milk into cheese yields a poor return as compared with its disposal in liquid form. In such cases, therefore, the farm is handicapped financially unless milk is transferred to the dairy at current market price and the dairy is made to bear the full brunt of the loss. It must not, however, be inferred that cheese-making, in its proper season, is necessarily less profitable than milk-selling. The reverse may be the case. In fact one of the most consistently profitable instructional farms was one (now relinquished) devoted entirely to summer cheese-making. The farm was all in grass, the cows calved down in early spring, ran through the summer practically without concentrates, and when dry, were carried over the winter mainly on hay. Labour, feeding stuffs and other outgoings were reduced to a minimum.

Educational farms, generally, produce "clean" milk and commonly "graded" milk, in one or other of its designations. In some cases an enhanced price is obtainable but this is rarely sufficient to cover the additional cost and, not infrequently, this expensive milk is being converted into butter or cheese for instructional purposes. In the purely commercial sense the farms are further strained financially, at least in the early years, by endeavours to eradicate tuberculosis, but there is already evidence that, once the herd is free from this disease and steps are taken to prevent its recurrence, considerable advantage accrues if only on the score of lessened depreciation.

Much valuable data are being accumulated with regard to the cost of stamping out tuberculosis; and the control of abortion, mammitis and Johne's disease is also being vigorously prosecuted. This all means money in excess of that likely to be expended by the ordinary farmer.

In all cases "balanced rations" for cows are being fed in accordance with generally accepted standards, but as a result of cost records and comparisons with methods adopted in other countries, both the accuracy of this system and its economic validity are being seriously called in question. There seems to be little doubt that the English "plane of nutrition" is, for all practical purposes, too high and that the bulk and chemical composition applicable to a ration of hay and concentrates are not necessarily the most suitable for a ration containing roots. In dealing with different breeds and strains, and even individuals so variable as cows in their capacity for utilising foodstuffs, a system of rationing reduced to a dead level for all conditions and all circumstances would seem to be too simple to be sound. The need for caution in the adoption of standardised feeding is well illustrated by the results of some recent experiments on the feeding of cake to cows at grass. The concentrated nature of young leafy grass disclosed by the analytical work of Woodman and Fagan has been amply confirmed in practice. Good pasture needs no supplementing.

With regard to winter milk, high feeding accompanied by good management may lead to high yields, particularly with good cows, but a reasonable profit therefrom is assured only when a high price is obtained for milk. Some moderate or low yields are produced very cheaply and such are usually the most profitable in circumstances where only a low price for milk is obtainable. Cost of milk production depends not only on yield but on capitalisation, depreciation and numerous incidental expenses which are, in general, greatest in the highest yielding herds.

It is easy to demonstrate on paper that a high yield is more profitable than a low one, and such may indeed frequently be the case, but at manufacturing prices for milk or even at liquid prices in outlying or inaccessible districts, low yields obtained at small cost are likely to prove the more economical. Balanced rations are not enough if the farming policy is unbalanced in relation to economic circumstances.

Somewhat similar considerations affect the question of home-rearing. Financial records show in many cases that home-bred heifers, by the time they join the dairy herd have cost to produce far more than they are worth and that, in consequence, profits from milk are seriously reduced or even completely wiped out. As a rule, rearing is most cheaply effected on low-rented, outlying farms where family labour and attention play a large part in the process. If then, the policy of herd maintenance and herd improvement commonly attempted on educational farms by the use of carefully selected bulls is to be upheld economically, certain readjustments would seem to be necessary. In present circumstances the costly home-reared heifers often prove disappointing as milkers, and while lip-service may be paid to "progeny records" in the bull, it is not often that such a bull is to be seen in an educational dairy herd.

With regard to sheep, less attention has, as a rule, been paid to breeding and management than the importance of the subject demands. This, however, is not due so much to lack of interest as to the absence of adequate facilities. Where sufficient range is available, as in North Wales, the maintenance of a well-bred flock of sheep is one of the principal features of the farm. Elsewhere, although hoggets are occasionally folded in winter, sheep are generally confined to "flying flocks." Draft ewes, or occasionally ewe tegs are imported from the rearing grounds—usually remote hill districts—put to a Down ram and ultimately sold fat together with their lambs. Different kinds of grass sheep are crossed with rams of various breeds and the results compared, but such has been the cost of ewes of this class (owing to an ever-growing demand) that the profit from lamb production—after deducting depreciation on the ewes—has generally been small. Greater educational benefit would accrue if an alternative to the purchase of draft ewes could be investigated and accounted, *e.g.* the purchase of ewe lambs to be run on and bred from until finally drafted for a last lot of lambs, or, in the case of farms remote from the breeding grounds, the maintenance of a self-supporting flock.

With regard to pigs, educational farms have accumulated a mass of data on breeds, crosses, feeding, housing and general management that no progressive farmer can afford to ignore, but there is still a lack of information regarding the feeding of sows on free range. In general the same remarks apply to poultry, a branch of the industry that has expanded enormously since the War. Progress is shown not only in breeding and feeding but particularly in the control of disease. Egg-laying trials and cockerel distribution schemes figure prominently at many of the centres. As means to an end such things are valuable: in due course we shall see economic demonstrations of the end itself, that is to say, demonstrations of poultry units suitable for the general farm, stocked, equipped and managed with the single aim of showing the highest profit obtainable.

The cultivation of cereals is still a common feature on most of the farms. Variety trials continue to be universally popular, not only with those in charge of farms but with farmers themselves. Thus do they afford irrefutable evidence of the incurable optimism of the tiller of the soil, for many of the leading varieties of twenty years ago or more are still the most reliable to-day

With regard to roots, the tendency is, more and more, to curtail the area devoted to the commoner cleaning crops, replacing these by cash crops, such as sugar beet, potatoes, and brussels sprouts, the unsaleable residue of which can usually be turned to good account on the farm. As a result of detailed investigations, the cultural requirements, and the nutritive value of the by-products, of sugar beet are now well understood, and it is becoming increasingly realised that if crops comparable with those on the Continent are to be produced, the treatment must accord with market-garden conditions rather than with those considered adequate for turnips or swedes. The same considerations apply to such dual-purpose crops as brussels sprouts.

Grass, both temporary and permanent, occupies an increasing amount of attention, and no farmer contemplating the laying away of land to grass can afford to overlook the lessons of the educational farm. The treatment of permanent grass, although the subject of experiment for many years, is still one on which it is undesirable to dogmatise. Much depends on the character of the soil, on the situation and on the species of plants present. Not all respond alike to this manure or that. Perhaps the most widely useful plant is perennial rye grass; it is evergreen and if suitably managed will, in the milder regions, produce a large amount of succulent keep throughout the greater part of the year. In improving grassland the aim should be as far as possible to secure the conditions favourable for the establishment and spread of this grass. White clover will generally respond at the same time. There are, however, other valuable plants that do not establish themselves to any extent indigenously, *e.g.* cocksfoot and timothy. Both are suited to a wide range of conditions and on dry soils and in dry situations they are invaluable. Where, in such circumstances, they are completely absent it would probably be wisest to plough out and start with a modern seed mixture.

Perhaps the part of this subject most in need of further study is the provision of winter keep. In this respect, again, confusion exists by failing to realise that certain grasses turn brown in autumn while others remain winter-green even through a fairly severe frost. The question of whether pastures or aftermath should be left fairly " rough " in autumn to provide winter keep, or eaten down bare, is largely one of species.

Much has been heard lately of the high feeding value of leafy young grass and many of the farms have endeavoured to develop this discovery by intensive rotational grazing and manuring.

There can be no doubt that by such a system a greatly increased head of stock can be carried particularly in areas not subject to prolonged periods of drought, but in present circumstances it would seem to be best adapted for cases where the area of grassland is limited and which, in consequence, is already stocked to normal capacity. Costs are high, consequently markets must be good.

But there are other aspects that deserve attention, *e.g.* the prolongation of the grazing season and the preservation of leafy grass as hay, either before the plant has run to seed or after a preliminary grazing followed by six or eight weeks rest. The extended use of Italian rye grass as a catch drop, forced by nitrogenous manuring for early spring keep, is also a matter well worth further consideration.

The possibility of establishing temporary leys in regions generally considered unsuitable, has been explored and results are distinctly promising, particularly with regard to hay followed by winter grazing. Wide, open fields for corn and small, sheltered paddocks for grazing are irreconcilable in a combined rotation. Consequently lucerne, in arable districts favourable for its growth, is not likely to be displaced by the short leys popular in the North. More work, however, remains to be done with this remarkable plant.

Finally, it may be noted that rotational cropping systems are far less rigid than formerly. Great strides have been made in the science of cultivation and of manuring, with the result that on educational farms there is, as a rule, no difficulty in keeping the land clean or in growing good crops, whatever the sequence.

The great need in agriculture to-day is for minds that are supple and elastic, mistrustful of dogma, and instinct with vision and imagination. In the past agricultural education has been regarded more from the point of view of the biologist than of the economist. To know how plants grow has been considered more important than to know how to grow plants economically. Farming has been directed to maximum production whether of animal or plant, while the fact that farming is a business in which producing the most is not always synonymous with the best commercial principles has been largely ignored. "A man wants not only bread but prospects. Sustenance may suffice for an animal but not for a man."

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NOTABLE FARMING ENTERPRISES: I.

It is sometimes imagined that this country lags behind others in regard to the possession of examples of notable farming enterprises. The period of depression which has weighed heavily upon the agricultural industry during the last ten years has tended to give a false impression of the intelligence and ability of the average farmer in this country. Those who are intimately connected with English agriculture, however, are well aware of the existence of outstanding farmers who have displayed considerable ability in developing and perfecting systems of farming, which have served to place them in the forefront of the farming community.

Farming in the best of times can never be regarded as easy. It is an industry in which success is controlled by a variety of factors. Even when economic prices obtain for agricultural produce, there are still droughts, floods, diseases and pests with which to contend. Luck may sometimes be a tremendous factor, but one's observations lead to the conclusion that the foundations of success are very largely dependent upon the ability of the farmer to exercise the necessary skill and judgment at every turn. As this is further analysed, it becomes obvious that successful farming is entirely a business enterprise rather than a gamble. It follows a well-thought-out plan, which is varied or modified when circumstances demand it from year to year.

That agriculturists are becoming increasingly impressed with the value of more business-like methods of farming is evident from the interest which is now taken in the work of the various departments of agricultural economics which have been set up at the Agricultural Colleges and University Departments of Agriculture. The pioneer of approved systems of farming still acts as a guiding star to his neighbours, just as much as the pioneer of improved breeds of live stock more than a century ago set the pace for others to emulate. It is this fact which makes the study of other people's farming systems so interesting. Much can be learnt from the methods of others, even though it is not always possible or desirable to apply them elsewhere.

In the present article the systems of three notable farmers are reviewed. These comprise Sir Frederick Hiam, of Cambridge; Mr. George Baylis, of Wyfield Manor, Newbury; and Mr. W. T. Hayr, of Tur Langton Manor, Kibworth, Leicester. It is sometimes claimed that the future of English farming is concerned with an extension of small holdings on the one hand and of large-scale farming units on the other. So far as these examples are concerned, they all fall into the large-scale farming group, Sir Frederick Hiam and Mr. George Baylis probably being the largest arable farmers in this country at the present time

SIR FREDERICK HIAM'S FENLAND FARMS.

The Fen country holds much of interest to the agriculturist. Fertile soil always makes a strong appeal, and in this respect the fens contain some of the most fertile soils in the country, especially when they have been suitably reclaimed by drainage works. Drainage is the all-important factor, for the soil is low-lying, somewhere in the region of sea-level, or a few feet below it. Reclamation has been going on for many centuries, probably commencing in the days of the Roman occupation when an attempt was made to hold back the sea by coastal works and embankments. It was not until the time of Charles I that any organised attempt was made to drain what in the seventeenth century was characterised by Lord Ernle in *English Farming, Past and Present*, as "a wilderness of bogs, pools, and reed-shocks—a vast morass, from which here and there emerged a few islands of solid earth. Here dwelt an amphibious population, travelling in punts, walking on stilts, and living mainly by fishing, cutting willows, keeping geese and wild-fowling."

How successful the various attempts at reclamation have been can be gauged from the fact that the fenlands to-day comprise a great stretch of country with a total area of over 600,000 acres, located in the counties of Cambridge, Huntingdon, Isle of Ely, Northampton, Suffolk, Norfolk, and the Holland division of Lincolnshire. These areas are covered with artificial water-courses which have been constructed for the purpose of carrying away the unwanted water. Pumping stations have been installed at suitable points, and are the means of raising water from a lower to a higher level, whence it is carried away in banked-up channels, some of which are much above the level of the adjacent land.

The soil which has been formed in this way is principally black in colour, of a considerable depth, and identified with a system of farming almost peculiar to itself. Not all the soils are black, however, for some are silty in character.

It is in such an environment as this that Sir Frederick Hiam has developed his farming enterprises. Sir Frederick Hiam commenced his farming career thirty years ago, but his early interests were concerned with the wholesale potato trade, and in this connection he had the advantage of a business training in London. This in itself may explain much of Sir Frederick Hiam's success as an agriculturist, for it is a great asset not only to know how to grow crops, but what to grow and how to market them.

The present extent of Sir Frederick Hiam's farming activities are illustrated by the fact that a total of 12,843 acres are owned, while a further 764 acres are rented. Of this area a total of nearly 9,000 acres are actually farmed by Sir Frederick, with a further 4,800 acres leased to tenants. It has been the practice from the outset to buy land whenever possible rather than to rent it. It must be recognised that not all fen farms are equally valuable, but in the present instance a wise discrimination has been exercised in regard to the choice of farms. The policy has always been carefully followed of buying land near to railways. It may be assumed that in these days of motor transport such a practice is out of date. It must be explained, however, that a considerable area of the fenlands is undeveloped. Thus many of the roads are unmade and impassable in winter, and this notwithstanding the fact that farmers have paid road rates for years. Adequate facilities for the transport of produce are therefore of supreme importance for the type of farming engaged in. It is of interest to mention that, with a view to the further development of his farming and property, Sir Frederick Hiam has had railway sidings constructed on many of his farms at suitable centres. These in turn are connected with many miles of light railways, which have been laid down at a cost of about £220 per mile. Such means of transport are essential, having regard to the horse-killing qualities of the farm-roads which exist, especially when the weather is wet. The light railway, however, solves many transport difficulties, and a horse by this means can pull five or six times the load possible under other conditions.

Large-scale farming is naturally dependent upon many factors for success. Good organisation may be said to be the foundation-stone of the system. In this case the farming area is split up into units of about 2,000 acres, which are controlled by skilled bailiffs. There are also smaller units of 500–600 acres placed in the charge of a foreman. It is interesting to mention that as the farms are practically all arable, men who have previously been horsemen are promoted to the rank of foreman. Experience has shown that ex-horsemen are more familiar with the routine work of an arable farm than are other men. The farming units are not by any means together. The guiding principle of suitable land for the object in view has meant a wide distribution in the counties of Cambridge, Huntingdon, and the Isle of Ely. All the farms are, however, connected by telephone, and thus a complete control is exercised from the headquarters, which are in Cambridge.

The type of farming engaged in is to some extent controlled by the soil. It is exceedingly doubtful if the agricultural depression has been fully appreciated on these fenland soils.

This in itself is a valuable testimony to the soil and the system of farming. The land, even in recent years, has been keenly sought after, and much of it has a freehold value of from £50 to £60 per acre. The small holdings movement has developed considerably, and under favourable conditions many are doing quite well. Agriculturally, the soil of the fens is very interesting. The black vegetable soil is underlined with clay, and Sir Frederick Hiam for many years past has made a point of "claying" some of his land every winter. This is an old practice which in most other parts of the country has fallen into disuse on economic grounds, but here the cost of £10 per acre is viewed as being well worth while, having regard to the improvement which it effects. This operation of claying is also regarded as a means of keeping labour employed over winter, while the benefits endure for a period of about ten years.

Contrary to what one would expect, the black fen soils, rich though they are in organic matter, do not need lime. Liming is considered a waste of money, and this is due to the fact that the soil is already rich in lime. The secret of maintaining fertility is deep cultivation, efficient drainage and the muck-cart. This latter point is very surprising to the stranger, but it is very evident that neglect of this important practice is slowly but surely robbing the land of much of its inherent value.

Sir Frederick Hiam is a specialist farmer who in recent years has concentrated on three selling-off crops in particular—viz., potatoes, celery and sugar beet. The acreages of these crops do not vary very much from year to year, as the figures for the past two years illustrate :--

	Potatoes Acres.	Celery Acres.	Sugar Beet Acres.
1929	1,931	483	1,550
1930	2,014¼	505½	1,549½

There is something to be said for a fixed policy of this character, and the three above-mentioned crops are ideally suited to the local conditions which obtain. Celery is often considered to be the best of the three from the viewpoint of financial returns, but this is rendered possible by the great care taken to ensure its success. Thus, particular pains are taken to get hold of seed which carries no tendency to blight, and for this purpose a sound stock of seed is sometimes held for as long as six years.

Other selling-off crops which are taken include carrots and onions, but to a great extent the trade in these crops has been affected by competition from Holland, due entirely to the low freights which exist for sea-borne produce by comparison with rail freights. This question of freight is an important one where large acreages of market-garden crops are grown, and experience commonly indicates that the agriculturist labours under a great disadvantage in this respect. Thus, as an illustration, it is difficult to realise why the coal freight from Cardiff to Cambridge is only 11*s.* 3*d.* per ton, whereas the potato freight from Cambridge to Cardiff is 29*s.* 3*d.* per ton.

Cereals, too, are extensively grown, the average acreage exceeding 2,500, of which about 2,000 acres are in wheat, with oats and barley comprising the balance in more or less equal areas. Cereal culture is not entirely determined by the value of the grain, but chiefly by the use which is made of the straw. In a good many cases fenland farmers make a practice of selling practically everything off the farm, including the straw. With Sir Frederick Hiam, however, the straw is retained for the purpose of making farmyard manure, which, as previously mentioned, is regarded as the basis of maintained fertility on this type of land. In fact, so highly valued is the straw for manure-making, that from 500 to 600 tons of straw are bought every year at an average price of £2 per ton for treading into muck.

The cropping of the land is determined not so much by a fixed rotation as by its suitability for the particular type of crop which is to be grown. Thus experience has determined that sugar-beet must be grown on the driest fields, whereas celery can be taken on the wettest fields. It is difficult, therefore, to indicate the character of the rotation practised, for there is nothing fixed. The introduction of the sugar-beet crop has done much to help the fenland farmers during the past eight years. In Sir Frederick Hiam's experience it has proved a valuable crop. Thus it is often grown on the worst land with the object of improving the land, and for this purpose has been grown on the same ground for four years in succession. The potato crop which usually follows a course of continuous beet-growing is invariably an excellent one.

As a guide, the following is typical of the rotation practised on some of the best land :—

1. Celery—manured with farmyard manure and artificials.
2. Potatoes—manured with artificials.
3. Cereal crop—especially if a large number of small potatoes have been left in the ground.
4. Sugar beet—manured with artificials.
5. Potatoes—manured with artificials.

It will be recognised that cropping of this character involves an intensive system of farming. It is, in fact, the best illustration of high farming practised in this country at the present time. Celery seems to be particularly responsive to dressings of 14 to 15 tons per acre of farmyard manure, but for other crops dependence is principally on artificial fertilisers. Nitrogen is not needed on this type of land, but considerable value is derived from the use of potash and phosphates, the latter being given in the form of superphosphate.

It will be observed that no provision is made for seeds leys in the above rotation; but when a hay crop is required, this is taken after early potatoes. Thus, Italian rye-grass is drilled after the early potatoes are harvested, which, by reason of its quick-growing capacities on this soil, will give a feed in October. This is usually pastured by horses or cattle, while in the following year two heavy crops of hay are taken. It is not a practical proposition to seed down a ley with a nurse crop by reason of the large amount of straw grown on these soils, which would only smother the young grass seeds.

The richness of the land accounts for the very heavy crops of produce which can be grown, though these are also favourably influenced by the management of the land and the treatment meted out to it. Mention has already been made of the value of "claying," but equally important is the maintenance of good dykes. In the old days the dykes were often kept full of water through neglect to periodically clean them out. The effect of this on the productivity of the land was considerable, for standing crops of wheat, oats and barley were secured when the drainage was bad. Since the drainage has been attended to, however, the length of straw has increased so greatly that lodged crops are the rule rather than the exception. This is not entirely in favour of easy harvesting, and in the wet summer of 1930 a great many crops had to be cut with the reaper rather than the self-binder. It is of interest to mention that this particular effect of cleaning out the dykes causes some farmers in these parts to oppose drainage. Naturally, varieties of cereals have to be selected with a combination of stout straw and heavy yielding capacities. It was surprising to find that Yeoman was not liked on this soil. Its reputation here is that of being a very poor yielder in a wet year, since it must have sun to do well. Little Joss, on the other hand, is a variety well liked. Apart from the question of variety, various measures have been adopted which are calculated to give standing crops of cereals. Thus a preference exists for wide-drilled rows, and at present the ten-inch width of drill row is liked. Similarly, light seedings are given—in some cases even less than one bushel per acre being employed. Even with these precautions, there is often a three-ton-per-acre crop of straw. This, however, is all to the good, provided it is standing.

The reputation of fen soils for growing large crops of sugar-beet is well known. In 1929 Sir Frederick Hiam had the excellent average of 11 tons 9¼ cwt. per acre of washed beet, which gave an average financial return of £27 2*s.* 4*d.* per acre, or over £40,000 from the total acreage grown. It is interesting to mention that the sugar-beet seed utilised is Marsters' English-grown, and this is preferred since it is considered to be freer from old seed than imported types, and therefore gives a better germination.

Potatoes which are the most extensively grown of the selling-off crops are also capable of yielding from 10 to 12 tons and over per acre of ware tubers. Majestic and King Edward are the principal varieties grown. The crop is grown in drill rows, 30 inches wide, which are put up with a three-row ridging machine. Planting is performed entirely by hand. Women labour is principally relied upon for this work, and a gang of six will plant about eight acres per day of eight hours, the piecework rate being about 3*s.* 6*d.* per acre. After planting, the ridges are split with a single ridging plough and also with the three-row ridger which has had the middle row ridger removed. The crop seems to mature very early on this soil, and in a year when blight is prevalent the haulm is cut down very quickly. Despite this, Sir Frederick Hiam considers that spraying is always a gamble. A sprayer is kept for each farm with a supply of fungicide so that the crop is immediately sprayed if a patch of bad weather occurs. In 1930, where the potatoes were sprayed six or seven times (which prolonged the growth), there were many more diseased tubers than where they were only sprayed once or twice and ripened earlier. King Edwards are always found to be subject to blight when they ripen off in wet weather. Thus, in 1930, there were 50 per cent. of blighted tubers in some fields, whereas in others that ripened earlier there were not more than 5 per cent. A feature of his potato crop is that hand-digging is extensively employed for lifting purposes. The practice is favoured since the potatoes are sorted and bagged right away, and in this way excessive drying out of the tubers is avoided, especially during hot weather. It is necessary to add in connection with this that when a heat-wave is experienced it is intensely felt in the fens, and potato harvest has to proceed apace notwithstanding, while even King Edwards are lifted as early as in August As in the case of the planting, piece-rate wages are paid for lifting. The rate is to some extent determined by the crop, but it works out at about 8*s.* per ton. As many as one hundred men are often at work digging, and the gangs are organised so that a man and a woman work together—the man digging with a fork and the woman picking and bagging. The two together are capable of digging, bagging and weighing three tons per day of eight hours; and in the division of the wages, the recognised custom is for the man to get two-thirds and the woman one-third of the total day's earnings. It is part of the recognised farming policy practised by Sir Frederick to maintain a regular despatch of produce from his farms every day. This is an ideal state, since regular flow marketing means a constant income from the sales of produce. Low prices do not seem to greatly affect the practice. Indeed, in a year when potatoes slump in price, the policy adopted of marketing a large acreage before Christmas means that little inconvenience is felt from a glut on the market after that date. To some extent the policy is determined by the character of the land, since it is obvious that transport facilities are more difficult in winter if a large proportion of the crop had to be put in the clamp. A proportion of the crop is, however, clamped, and for this the use of spinners is employed for lifting purposes. The Hoover is the type of spinner preferred, this machine doing excellent work in dry weather, and it leaves the tubers in one straight row behind the machine. Another interesting practice followed by Sir Frederick is that of selecting his own seed from direct Scotch grown, and placing the seed-sized tubers in bags and allowing them to become green. After this has occurred, the seed potatoes are then put into a clamp. Boxing the seed-tubers has been tried, but it is not considered nearly so good as the method of "greening," partly because of the expense which "boxing" incurs, and partly because boxed potatoes ensure earlier growth, which is not an advantage in Sir Frederick Hiam's case on account of frost risks. "Greening" ensures that the tubers are rendered hardier than ordinary "seed," while wireworms and slugs will not eat green tubers.

The remarkable feature of Sir Frederick Hiam's system of farming is the extensive dependence upon manual labour for the various operations which take place. Sir Frederick holds a very high opinion of the labour which is available, and claims that the fen district in which his own property is situated contains the finest type of labour in the country. In the district around Soham the people enjoy common rights, while their skill in agricultural pursuits has been largely developed by their willingness to labour for piecework rates of pay. There is little doubt that this type of labour is a solution of some of the agricultural problems of the present time. In this instance the piecework rates preferred are those based on the ton of produce rather than per acre. The effect which piecework rates have on the labour bill is considerable. Thus the fixed wage for agricultural labour of 30*s*. per week is converted into nearly 50*s*. per week on the average when piecework rates obtain. The normal working day of the labourer under these conditions is from 7 a.m. to 3.30 p.m., with a break of half an hour for a meal from 10 a.m. to 10.30 a.m. Another labour feature is the willingness of women and girls to engage in farm work. It is possible to find regular employment for women for at least eight months of the year. They willingly co-operate with the men labourers in the piece-rate work, while the remuneration earned, coupled with the measure of freedom they enjoy, has retained girls on the land against the claims of domestic service. A great deal of the beet singling is performed by women, while schoolboys are also employed on this job after school hours. Thus forty boys work together in a gang, with a man over them for the purpose of supervision. One is tempted to feel that on these farms Sir Frederick Hiam has especially studied the means of maintaining a large labour population on the land. Even when mechanical operations could well replace manual labour there has been no particular disposition to replace the normal labour. Intensive farming of this character practised on such an extensive scale makes a heavy demand on labour at certain seasons of the year. This labour could not be attracted and retained on the land if the employment was not regular. This helps to explain why the dykes and ditches are cleaned out by manual labour in winter, and why clay is still dug. A total of about 700 farm hands are employed by Sir Frederick, and of these about 500 are men and 200 women. The annual labour bill is £70,000.

Thus far no reference has been made to live stock. The fen country has long been renowned for its excellent Shire horses, and it is definitely a horse-breeding district. Sir Frederick breeds all the horses he requires, and from fifty to sixty foals are bred every year. In this way the horse-stocking of the farms suffers no depreciation in value or strength, and the horse population of the farms averages 5 per hundred acres of land. Latterly, the Shire mares have been crossed with the Percheron with the object of producing cleaner-legged horses, which are regarded as being more suitable for purely agricultural requirements. A re-organisation in the horse-stocking is contemplated as a result of the low prices ruling for cereals. Thus much of the ploughing is done with tractors, but heavy tractors are not liked on this land for other work unless they have a cultivator behind them. Caterpillar tractors have been purchased recently, and these do not pad the land. These tractors will plough 4 acres per day with a furrow 11 to 12 inches deep. This same work would otherwise necessitate the employment of 12 horses and 4 men.

Sheep are not kept, as in the majority of cases the soil is too wet for maintaining a breeding flock. They have been tried, but much trouble was experienced from foot rot, while the dykes were also responsible for losses. Pigs and feeding cattle, however, are kept in large numbers. In this case all the feeding is designed to act as a manure-making machine. The three to four thousand pigs maintained utilise the small or chat potatoes, and at the same time trample down a good deal of straw in the yards in which they run. Pig breeding, however, is not without its troubles, and a good deal of loss in the past has resulted from outbreaks of swine erysipelas. It would almost appear that this trouble is never absent, and innoculation with a serum is the only means of minimising the effects of the disease.

The financial results of this type of farming are perhaps best emphasised by the fact that there has been a gradual extension of the farming activities. Good connections have been established with the principal consuming centres, and large-scale farming of the character already described enables constant touch to be kept with buyers, since their requirements can always be satisfied. Sir Frederick Hiam's farming is first and last a business operation.

MR. GEORGE BAYLIS'S DOWNLAND ARABLE FARMING.

The story of Mr. George Baylis's farming career is more like fiction than fact. One has to go back to the year 1862 to find him at the age of 17 articled to a solicitor. He was, however, the Berkshire-born son of a farmer who had originally migrated from Worcestershire. Farming was therefore in his veins, and his country upbringing reasserted its hold on him. This led to his securing the cancellation of his articles with the approval of the then Lord Chancellor, who advised him to stick to farming.

His immediate farming experiences were not of the happiest. In 1866, at the age of 21, he rented a holding at Bradfield, near Reading. Here he practised the established farming system of the four-course rotation, the fertility of the land being maintained through the agency of live stock. Financially, however, the venture proved a disastrous one, for in six years £600 were lost on 240 acres. Such an experience has been known to act as a damper on farming enthusiasm, but with Mr. Baylis it had the uncommon effect of stimulating him to think out a plan of overcoming his farming difficulties.

About this time the work of Lawes and Gilbert at Rothamsted on continuous corn-growing was beginning to reveal some interesting results. It will be remembered that the investigators commenced these experiments in 1843, and Mr. Baylis was particularly interested in the achievements of the first thirty years' work. This work had already upset many of the established ideas in relation to the rules of good husbandry as it concerned arable farming, and of cereal culture in particular. Thus it was indicated that cereals could be grown successfully without the aid of farmyard manure or the folding of sheep, provided substituted artificial fertilisers like ammonia and phosphates were employed. In short, it was established that successful cereal-growing was possible in the absence of live stock.

By some stroke of genius Mr. Baylis decided upon a course of farming which even in these days is startling, but which then was absolutely revolutionary, notwithstanding the results obtained in the Rothamsted experiments. A system was devised which actually secured the elimination of manure-making live stock from the farming scheme. Naturally if live stock were to be eliminated, then such crops as were grown had to conform to selling-off requirements. This was actually the basis of the Baylis system, and the scheme was embodied in a fixed rotation.

Fortified with his ideas, Mr. Baylis acquired the freehold of the 400-acre farm of Wyfield Manor, Boxford, near Newbury, in 1875. One can imagine the faith which he placed in his ideas when it is mentioned that he had no capital, but raised mortgages to provide the necessary purchase-money which amounted to £15,000. The new property was a typical Berkshire down-land farm, situated on part of the chalky range comprising the Marlborough and Ilsley Downs. The normal system of husbandry on this land concerned cereal culture with the folding of sheep on green crops and roots for the maintenance of fertility. This had been for long the traditional custom, and one which is still extensively followed in the same district to-day.

Mr. Baylis's ideas were translated into practice in the following six-course rotation :—

Cereal crop.
Bare fallow.
Cereal crop.
Cow grass.
Cereal crop.
Bare fallow.

It will be observed that a departure was made from continuous corn-growing with which the Rothamsted experiments were concerned, and which other people have successfully practised. The rotation devised is a sound one from the scientific aspect, and even apart from the question of manuring is not unduly exhausting to the soil. This fact must not be overlooked in appraising the system.

It must also be remarked that at the time this rotation was devised the objections which are now sometimes raised in regard to roots on the grounds of expensive labour costs did not weigh so heavily then. Nevertheless there was no point in providing food for stock when fertility could be maintained in the absence of sheep and cattle. Thus one of the downland farmer's most treasured practices was eliminated by Mr. Baylis, and with it the risks attendant on the maintenance of a flock of sheep and the yard feeding of cattle.

Fifty years is a fair time in which to test a system of husbandry in regard to its efficiency. It was plainly evident, however, from the outset that the system was financially sound—and this at a time when arable farmers generally were in the throes of a depression in many respects worse than that through which arable farmers have passed in recent years. The widespread depression caused large numbers of farms to become vacant, and in the midst of these experiences Mr. Baylis started to add to his acreage ten years after he had purchased Wyfield Manor. In some cases the farms were rented at the outset, and subsequently purchased. The main fact of importance in this is that the new additions were made out of the proceeds of farming, and the acreage was gradually increased in this way until 1917.

At the present time, Mr. Baylis owns a total of 6,150 acres and rents a further 5,990 acres, making a total of 12,140 acres. It is of interest to mention that the purchase price of the land which is owned totalled £98,300—a sum representing only part of the fruits of arable farming in a period which included some very disastrous years for those who carried on under the traditional methods.

Perhaps the outstanding point of interest apart from the financial results is that the rotation has stood up to over fifty years' continuous practice, and the modifications have been remarkably few. The cropping capacities of the land have continued to advance and some excellent cereal crops are grown on a soil type which is not naturally fertile. Three factors have contributed to this end, viz.:—

(*a*) The manuring, which is on a very liberal scale. The cereal crops receive dressings of phosphates, potash and nitrogen. Mr. Baylis claims to be the largest individual user of superphosphate in this country, while of the nitrogenous fertilisers he entertains a preference for nitrate of soda.

(*b*) The bare fallows have satisfactorily maintained the cleanness of ground.

(*c*) The ploughing in of the cow grass and corn stubbles has secured the maintenance of the humus content of the soil.

The magnitude of Mr. Baylis's arable undertaking, with its specialisation on cereals and clover hay, is practically unique in this country. It is all the more remarkable too from the fact that all the produce grown is sold off the land—grain, straw and clover hay. In attempting to explain the success of the system one has to recognise that the financial soundness of the practice has broken down in the present agricultural depression. This does not affect the interesting character of the system which successfully withstood the previous depression. New problems, however, confront the corn-grower to-day which did not obtain in the 'seventies and 'eighties of last century and these will be discussed later.

It is obvious that large-scale farming depends for its success on studying closely those practices which have a bearing on the financial results. It is possible to utilise methods which cannot be so easily applied in the case of smaller holdings. Farming with Mr. Baylis, as with Sir Frederick Hiam, has been a business proposition from first to last. Mr. Baylis has been a hard worker all his life and is still able to direct the extensive operations at the age of 85. It follows that the control of a large acreage in the hands of one individual reduces the number of families who have to draw a living from the soil in respect of the duties of management. The surplus farm-houses which became vacant on Mr. Baylis acquiring his farms were let as private residences. Similarly, the shooting rights of the property were also let, and on some of the farms this brings in an appreciable sum. As an illustration, one piece of shooting on 546 acres is let for £80 per annum at the present time. Farming of this character also makes it possible to work large breaks of land, and large fields are the rule. Thus in one 200-acre field, there was a break of 70 acres of barley.

In the management of his farms, Mr. Baylis is now aided by his four sons, though he still controls all the financial side of the farming. The labour staff totals 250 men, and it is interesting to mention that about the same number of horses is maintained. The district is one which for many years has extensively utilised steam power for cultural purposes and Mr. Baylis has made much use of this tackle. Singularly enough, Mr. Baylis has not displaced any of his horses with tractors. It is claimed that horse labour keeps a regular staff of men employed the whole year round, and that horse-ploughing is more suitable on this land in winter. Recently, however, tractor power has been employed for corn-cutting at harvest time.

Although the Baylis system had established its soundness many years ago, it would appear that Mr. Baylis has ploughed a lonely furrow in his own district and has had no disciples locally. Twenty years ago the owner of the Upper Farnborough farm refused the tenancy to Mr. Baylis, yet by the irony of circumstances the tenant appointed on that occasion was evicted by the War Agricultural Committee in 1917 and Mr. Baylis took the farm over from that Committee. As an illustration of the transformation resulting from the application of the Baylis methods, land on this same farm which in 1917 threshed 6 bushels (1½ sacks) of wheat per acre, yielded 44 bushels (11 sacks) of wheat per acre from 90 acres and 56 bushels (14 sacks) per acre of barley from 30 acres in 1929. This is just one typical illustration of the high standard of farming which has resulted from the system employed, while another was an excellent crop of wheat observed to be growing on a field which had had no farmyard manure for 54 years.

Regarding the varieties of cereals, Mr. Baylis has concentrated almost entirely on the heavy yielding types. These include White Victor wheat, Spratt Archer barley, Grey Winter and Abundance oats. So far as clover is concerned, the only variety that will grow successfully is cowgrass. Seed is selected from crops grown in either Berkshire, Wiltshire or Hampshire. There are a certain number of side-lines, but these do not affect the main farming system. Thus old sainfoin is grown both for hay and seed—the hay in this case being sold for feeding to racehorses. A small acreage has also been planted with fruit-trees, but fruit is not considered to be profitable.

The rotation in practice has proved particularly suitable for the economical utilisation of labour. Mr. Baylis has specialised extensively on barley-growing, and in past years this has been regarded as his principal cereal crop. The chalk soils hold a high reputation for the production of good malting samples. A certain amount of autumn sowing of barley is practised, this usually being the first of the autumn seedings, and is followed by winter oats and then by wheat. There is plenty to occupy the labour staff through winter in the threshing, baling and marketing of cereal crops and of hay. In spring, the spring seedings are made, and subsequently work is concentrated on the fallows, with the break for hay harvest, followed with the renewal of work on the fallows in preparation for autumn seedings, which is again broken into by corn harvest. Such manure as is produced by horses finds its way on to the fallows.

A good market has been experienced for the produce grown. Racing stables abound in the district, and a good demand has been experienced for oats, straw and hay. The straw has also found a ready sale for packing purposes. Mr. Baylis has all along attempted to deal with the marketing of his own produce. Thus the hay and straw is baled by him on the farm and sold as such. Incidentally, the magnitude of the corn harvest makes it necessary to buy in 7½ tons of binder twine for the season. Bulk purchases of this character apply to most of Mr. Baylis's farming requirements. This in itself secures the effecting of economies which are not possible in small-scale arable farming. Similarly, advantage can often be taken of a favourable market by bulk sales.

Apart altogether from the high standard of husbandry which Mr. Baylis has maintained, it is probable that much of the success realised has been due to the economic use of farm labour. Thus in comparing the relative labour utilised, Mr. Baylis employs one worker to every 48 acres as against the employment of one worker to every 13 acres in Sir Frederick Hiam's case. The different system of farming provides the explanation of the wide divergence, but it is fairly obvious that specialisation plus low labour charges have contributed greatly to the successful results. Mr. Baylis, however, is now in trouble so far as labour matters are concerned. His labour costs in pre-war days amounted to £32,000 per annum. To-day the figure is £45,000. The difference is sufficient to account for a pre-war labour cost of £2 15*s*. per acre, as against £4 per acre at the present time. In this respect Mr. Baylis belongs to the old school and maintains that at the present prices ruling for cereals, arable farming even by his system cannot be a financial success with wages at their present level. He is equally disturbed at the fact that men in these days will not work on Saturday afternoons.

It is not the purpose of this article to discuss the possibilities of the Baylis system in the present state of farming, but it is obvious that some of the difficulties might be overcome by the utilisation of more mechanical aid. Mr. Baylis does not, however, agree with this suggestion, using as an argument the fact that on one group of farms on which tractor power has been utilised there is no appreciable reduction in farming costs. In its original conception, the judicious application of scientific principles to the everyday practice of agriculture accounts in a great measure for the success of Mr. Baylis as a farmer. To this has been added a capacity for hard work and the exercise of good judgment.

MR. W. T. HAYR'S LEICESTERSHIRE GRAZING FARM.

Grazing as a farming pursuit has for long been confined to specialists. Perhaps this is not so generally true to-day as at one time, but nevertheless there are still specialised grazing districts in which a distinctive system of husbandry prevails. Of these areas, the Market Harborough district of South Leicestershire and North Northamptonshire is recognised as being one of the foremost.

One of the best-known farms in this very fertile grass district is that owned by Mr. W. T. Hayr, of Tur Langton Manor, Kibworth, Leicester. Mr. Hayr has enjoyed a high reputation as a grazier for many years. When the farm prize competitions were held on the occasion of the 1915 Royal Show at Nottingham for the shire counties of Derby, Nottingham and Leicester, Mr. Hayr secured the first prize in Class IV for the best grazing or dairy farm, 400 acres or over, of which approximately two-thirds had to be in permanent grass. At that time, the holding extended to 700 acres, with not a single acre of ploughland.

As in the case of many others in this grassland area, Mr. Hayr is a grazier by descent, his father having followed this profession in Rutland before coming into Leicestershire. The farms in the Market Harborough grazing district are valuable properties and Mr. Hayr has farmed at Tur Langton Manor for thirty-eight years. His interests until six years ago were entirely concentrated on grazing and horse-breeding, but since then he has extended his farming operations, so that these now embrace a 300-acre dairy farm at Great Glen, where a herd of 100 cows is kept for the purpose of producing Certified and Grade "A" (Tuberculin-Tested) milks.

The Tur Langton Manor farm, however, now extends to 500 acres in area, and the freehold of the property was purchased by Mr. Hayr in 1912 and therefore before the days of inflated land values. The soil is a fertile clay loam and is all down in grass. The country is slightly undulating and is situated in the well-known Fernie hunting country. About 100 acres of old grassland were ploughed up during the War, but this is now all sown down again to grass. It is interesting to mention in this connection that Mr. Hayr only ploughed up his worst grassland at that time and that after being sown away to grass again it is a better turf than before it was ploughed. This bears out the general experience that one of the best ways of improving a turf is to plough out and re-seed with a modern mixture. On the occasion in question Mr. Hayr sowed his fields down with expensive mixtures, but in general he is not a believer in spending much money on seeding down, since he thinks that the indigenous grasses and clovers of the district appear in due course, irrespective of the original composition of the seeds mixtures.

It can be truthfully said that at the present time all the grass fields on the farm are good, while the average size of these is about 20 acres. In some cases the land is naturally good, so that its maintenance is not a difficult matter, but good management and a thorough understanding of the treatment of grassland is characteristic of successful graziers, and Mr. Hayr is no exception in this matter. Mr. Hayr has made it a practice to study his fields as much as his stock, and specially noticeable in this case is the even grazing and freedom from coarseness which is characteristic of his fields. Manuring has not featured prominently in securing this result, although lime has been applied since the War, as well as dressings of basic slag. The fact that Mr. Hayr endeavours to stock his land with mature stores tends to emphasise the fact that the land is not so depleted in its manurial constituents as in the case of a breeding farm or where younger stock are being grown and sold off. The secret of the level growth of grass on the pastures is that the manure clots of the cattle are all handspread during summer and autumn, with the additional advice that "the oftener it is done the better for the levelness of the pasture," together with efficient grazing.

One can gain some idea of the fertility of this grassland when it is mentioned that Mr. Hayr stocks at the rate of one bullock and one sheep per acre through the grazing season. The buying of the cattle required commences at the end of February or beginning of March, though these early purchases are not put on to the best pastures, but go on to the fields which are to be mown for hay. In the absence of sufficient "keep" at this stage they are given hay to eat. The good pastures are fully stocked from the beginning to the end of May, depending upon the season. Experience has shown that the important point as to the stocking is to get the cattle on the available grazing as soon as a grazing bite occurs. The old Leicestershire saying that "all the grass that is grown in May ought to be eaten in May" has proved to be true in practice. Indeed, it is Mr. Hayr's experience that the levelness of the pasture and its freedom from grazing gone to seed is largely dependent upon thorough grazing in May. The month of May is therefore a critical one, so far as this type of farm is concerned.

The association of sheep with cattle is also an interesting one on this farm. The sheep are principally bought in as hoggs in August of every year and they are run at the rate of 1½ sheep per acre right through the winter. At this time they are thus the only stock on the land, there being no cattle on the farm during December, January and February. The grazing available is ample for their needs and they get no food other than the grazing. It is a fixed policy to have these sheep sold as they are fat, so that they are all off the farm by the first week in July. This is a particularly sound practice, since it secures the resting of the farm from sheep for a period of six to eight weeks. July and August are sometimes critical months for grazing cattle, and they do better at this period with the grassland to themselves, while the land itself being rested from sheep is also fresher for this type of stock when they are again brought on to the farm at the end of August. The resting of grassland from sheep is a point not always sufficiently appreciated by grassland sheep-farmers, and this practice of Mr. Hayr's is one which is worthy of observation and emulation.

Reference has been made already to the preference which exists for mature cattle for grazing purposes. It is, however, found to be increasingly difficult to buy in three-year-old stores. Younger cattle do not seem to do so well on this land, which is said to be too "strong" for them, thus causing scouring. Mr. Hayr has not as yet been disposed to try the feeding of foods rich in carbohydrates as a means of checking this trouble in young cattle, but his observations indicate that younger fattening cattle do all right on his newly laid down grassland. Whether this is the remedy for these so-called "strong" pastures it is impossible to say at this stage, but Mr. Hayr ventured the opinion that while a policy of ploughing out and re-seeding might make it possible to fatten younger cattle, arable farming is foreign to the district and the existing labour has not been trained to the plough. The breeds of cattle selected and preferred for grazing are Lincoln Reds, Herefords and Devons. Mr. Hayr has not grazed many Irish stores, since he prefers home-bred cattle, though he contends the Irish cattle are much better than they were.

In the main, one batch of cattle, numbering from 450 to 500, depending on the season, are bought in. Maiden heifers are preferred to bullocks since they mature much more quickly, though the feeding of these is recognised to be a practice which is not always in the best interests of the country, having regard to the future supply of store cattle. The average liveweight of the stores which are liked is between 9 to 10 cwt., and Mr. Hayr estimates that his cattle make an average increase in liveweight of 2½ cwt. during the grazing season. The selling of the fat cattle is principally a private trade, though occasionally they are sold by weight. Most of the fat cattle go to London, Colchester and Chelmsford buyers. A proportion of the cattle will be normally marketed before the beginning of July, and the rest are usually all away before the beginning of December. The returns in recent years have not justified the practice of extensive feeding of concentrates, and if cattle are kept on too late, the feeding of cake is inevitable. In 1930 Mr. Hayr only had ten cake-feed animals.

With regard to the type of sheep preferred, these in general are cross-breds, the greater part being by Suffolk rams out of Border Leicester–Cheviot cross ewes, which is a type and cross very popular in the Midlands. These sheep are found to suit the land very well and are not so subject to scouring as is the case with some types.

In attempting to study the prosperity or otherwise of the grazier, there are certain features which make his life an interesting one. Mr. Hayr considers that if one can be certain of success the grazier's life is an ideal one, since the farming is concerned mainly with the grazing season. So far as farming capital is concerned, this is principally invested in live stock which are all cashed within nine months. In the old days this fact used to be regarded in a favourable manner by the banks, since the grazier could command generous overdrafts, though this is not so marked in these days. The labour bill is a particularly small one. Thus Mr. Hayr employs five men—or one man per 100 acres of land. These men in the "dead" season have sufficient to keep them busy, since they are employed in clot spreading, the cleaning out of ditches and the laying of hedges.

The financial soundness of this type of farming is, however, wrapped up in the price of stores on the one hand and the price of fat cattle on the other. The grazier's ideal is to be able to buy the stores at the same price per live cwt. as that at which they are sold fat. This, however, is very rarely realised, for even in the pre-war days when supplies were easier to get, it was customary to pay about 2*s*. to 3*s*. more per live cwt. for stores than the outgoing price. It is now usual, however, to have to pay as much as 5*s*. per live cwt. more for stores, and in some cases much more. Experiences of this character greatly affect the returns and therefore the profits, and it is easy to lose a good deal of money. Thus 1930 was not a good year so far as cattle returns were concerned, but sheep have proved the salvation in Mr. Hayr's case. The risks which the grazier has to face apart from bad fat cattle prices are principally losses in live stock. Mr. Hayr estimates his casualties at 10 to 15 cattle per year on the average.

The only side-line which Mr. Hayr has been interested in at Tur Langton Manor is horse-breeding, though the attention paid to this has diminished in recent years. Mr. Hayr is, however, already famous as the breeder of the celebrated Shire Stallion Harborough Nulli Secundus, a double London Championship winner and a successful sire.

Although the system of farming engaged in by Mr. Hayr is of a perfectly straightforward type, it is one in which he takes great pride. Everything testifies to methodical management, for apart from the evenness of the grazing, the fences and gates are all maintained in good condition. The hedges are laid every ten or twelve years, but the young shoots are allowed to grow up again for shelter purposes. Sorting pens have been constructed in several fields to facilitate the selection and drafting of the feeding cattle as they become ready for market. Weed eradication is energetically pursued in summer and the thistles are hand-pulled. Indeed, the farm is maintained in a condition fit to show at any season of the year.

In conclusion, I should like to acknowledge my indebtedness to Sir Frederick Hiam, Mr. Baylis and Mr. Hayr for the facilities they gave me of going over their farms and for their great help in supplying all the material information contained in the foregoing pages. In the case of Mr. Baylis's farming system, my task was lightened by Mr. C. S. Orwin's review in the Oxford series dealing with "Progress in English Farming Systems." I should also like to add my thanks to the late Mr. C. J. B. Macdonald, last Editor of the JOURNAL, who selected these examples of notable farming enterprises, and who in the first instance secured the necessary co-operation of the gentlemen concerned.

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AGRICULTURE IN WARWICKSHIRE.

WARWICKSHIRE is unique in that it is the central county of England, its county town being about equidistant from the main ports. Liverpool, Hull, Bristol, and London are all just over ninety miles away. It is a county of great beauty and of no mean historic and literary importance and its aptitude for growing trees has earned it its title "Leafy Warwickshire." As a county it is undulating and well wooded not only with elm, which goes under the name of the Warwickshire weed, but also with oak,' which appears in great quantity. Its position naturally throws it on to the main lines of communication north and south and to some extent east and west. Two main railways, the Great Western and L.M.S., operate within its boundaries. The London-Holyhead Road (or the Watling Street) runs for a considerable distance along its boundary and the main trunk roads from London to the north and north-west pass through the middle of it. Canal services abound within the county as the London to Birmingham Canal goes through it for a very long distance and it includes several other canal systems. Warwickshire is therefore favourably situated—when farming produce is fetching remunerative prices on the markets—for getting what is produced to a market.

In order to get a clear conception of the county it is necessary to examine some of the statistical records which show that the total area excluding water is 604,864 acres, of which 475,197 acres are devoted to crops and grass, and of this acreage according to the 1929 returns just under a quarter, namely 113,464 acres, are arable.

Warwickshire is an agricultural county with the exception of a small area in the north where the chief industry is coal mining, but this is confined to a strip from just north of Coventry to Nuneaton, Atherstone and Tamworth, and a tour over the county will readily convince one how truly rural it is, given up almost entirely to agricultural pursuits. Despite the fact that Warwickshire is overrun by main roads, railways, etc., it is comparatively easy to find districts which leave the impression that they are as far from the hum and bustle of the business life around them as if they were on the moors of Yorkshire or in the deep recesses of the glens of Scotland. A short account of the geology of the soils resulting from the different formations may help the reader to form a clear conception of the differences in the systems of farming which prevail throughout the county.

A glance at the geological map shows that the outstanding formations run roughly north and south, but one can scarcely start at one side and go through them in order since the oldest formations are to be found only in the northern end of the county. A narrow strip of Cambrian runs from Hartshill to the Abbey Road Station at Nuneaton alongside the coal measures, providing us from the quarries with a very hard stone much used for road metal.

THE COAL MEASURES.

The coal measures, greater in extent, stretch from Binley just east of Coventry in a north-westerly direction to Tamworth and into Staffordshire. The soil covering this varies very greatly from heavy sticky unkindly soil to light, poor and hungry soil. The farming, too, in this area is much influenced by the mining operations, being of second importance to coal mining. The clays associated with coal measures are difficult to cultivate, being mixed with a very fine silt derived from the coal measure shales. The soils in the area are subject to extreme and sudden variations which harass the cultivator considerably. Problems of drainage, an unhappy sequel to mining operations, often occur, and large areas of this land have become waterlogged, or, at all events, show the necessity of having the drainage system overhauled or renewed, and large stretches along the river beds are in flood during wet periods, the land having become so flat and low lying that it is practically impossible to take the water off without incurring an enormous expense in pumping machinery.

The soils in this area are generally considered to be rather poor agricultural soils ; but nevertheless they respond to liberal treatment. Occasional liming is essential for both the light and the heavy soils in order to maintain fertility due to the fact that these coal measure soils are naturally deficient in lime and, in addition, in those areas where smoke abounds there may be deposits of acid material more or less perpetually being put down. Potatoes and oats are the crops which give most satisfactory returns in this area, clover frequently fails owing generally to lack of lime. When lime is applied, the crop range can be widely extended and may include such crops as barley, sugar-beet, cabbages, broccoli, vetches. In this area the main section of the farm routine is the production of milk—all of which is not, however, consumed in the thickly populated mining area, but what is surplus to their requirements is despatched to Birmingham or Coventry, where up to the end of last season it had found quite a ready sale. Very little rearing is done in this area, calves are sold when dropped and the system of taking only one or two calves and then feeding out is most often met with. Crops grown in the area are such as can be utilized in the dairy ; oats, beans, roots, and to a less degree potatoes, which find a ready sale in the mining villages of the district together with some market-garden crops.

CARBONIFEROUS SANDSTONE.

The latest Carboniferous sandstone is found extending from Baxterley and Merevale in the north to Cubbington and Leek Wootton in the south. This red sandstone gives rise to a tract of good fertile land easy to work and capable of growing good heavy crops of almost any sort—hungry but very responsive to good manuring, which includes potash and periodic liming. In some parts potato growing is carried on quite successfully with areas of corn, sugar-beet and other roots. Much of this land, however, suffers from lack of lime, but on the whole stock do extremely well and stock-rearing is carried on—with success as may be seen from the high standards attained amongst the stock exhibited at the local shows. The farming in this belt may be classified as mixed with dairying and stock-rearing.

TRIASSIC.

Circling round this area on the east, south and west appears a narrow belt of Keuper sandstone running in to a very extensive area of Keuper marl. The latter covers rather more than half of the county and provides a heavy but fertile soil difficult to work on account of its sticky tendency. This area is throughout not completely Keuper on the surface, as large tracts are overlaid with different types of drift varying considerably in depth and type so that the Keuper appears only intermittently, *often in small patches. According to the findings of the soil* survey carried out by Mr. Morley Davies, the Advisory Chemist, at the Harper Adams College, the area stretching east of Stoneleigh, including Ryton, Princethorpe and Weston, contains large areas of drift from the Corley sandstone and marls, together with other drift formations giving rise to a soil of a much heavier texture. Much of the land of this area has proved too difficult to work owing to the repeated variation in soil to be retained as arable and has been put down to grass, providing a good herbage for dairy stock. Young stock do very well in some sections of this area, particularly where they are on the true Keuper marl, but the portions of drift which appear in patches vary; some of these patches are distinctly liable to give rise to trouble amongst calves, for example husk (or hoose) seems to appear more prevalent on the glacial sands and gravels where a distinct lime deficiency is met with, and yet fields on the same farm where the Keuper marl comes up to the surface can carry calves without a trace of husk being noted. The area is devoted very largely to the production of liquid milk for Birmingham and Coventry markets together with mixed farming and some stock rearing.

LIAS.

The area running down the eastern side of the county—southward into Oxfordshire and Gloucestershire—is covered with lias clay and is practically all under grass. Although at one time the whole of this area, which compared with the other parts of the county has very few trees, has been under the plough, the excessive cost of cultivation has forced the occupiers to abandon wheat and beans and put down to grass. The grass, too, is indifferent in quality; much of the land indicates that the existing drainage systems need overhauling, or in some cases renewing—some of the drains having been put in too deep to function effectively. To dressings of phosphates this class of land has given a ready response and in some cases, to dressings of potash also. The stock seem to take to the grass more readily after potash applications; the whole area, too, seems to be rather short of available nitrogen. At any rate, marked improvement of the grass takes place very soon after nitrogenous dressings, and it seems apparent that much could be done to improve this area by adopting more intensive methods of treatment, such as grazing more systematically, and applying more manures, especially nitrogen. The land is usually cold and late, but in a few instances the intensive treatment has demonstrated that grass can be got quite early. This area is devoted very largely to grazing of older classes of stock. Young stock are not grazed in this area as they are not suited to this class of land. Herefords, Crossbred-Hereford-Shorthorn, or Shorthorns predominate here.

ALLUVIUM.

There is a narrow stretch of alluvium down the Avon Valley which provides the main portion of the richest arable land capable of growing any type of crop. Farmers have taken up sugar-beet growing and have raised a good marketable crop for the last two or three years. On this alluvial stretch in the south-west of the county, market-gardening has been gradually creeping north-eastward from Evesham. Such crops as plums, apples and green crops are grown. Along this fringe round Stratford, Wellesbourne, Warwick, Coventry, some stock-rearing and dairying is also carried on.

TOPOGRAPHY.

The county as a whole cannot be described as high—the highest points, namely, the ridge from Bulkington to Corley, being about 800 feet above sea-level. This ridge forms the watershed between north and south: to the north tributaries of the Trent have their origin, and to the south side runs the Avon and its tributaries. There is also a rather high ridge running along the southern boundary, including Edgehill and the higher ground round Long Compton. "The main river of Warwickshire," to quote Brewer, "is the Avon, but concerning the course of the minor rivers the Rhymes of Drayton may suffice"—

> "How Arden of her rills and riverets doth dispose:
> By Alcester how Alne and Arrow easily flows,
> and mildly being mixed, to Avon hold their way,
> And likewise tow'rd the North how lively tripping Rhea;
> T'attend the lustier Tame, is from her fountain sent,
> So little Cole and Blyth go on with him to Trent.
> His Tamworth at the last he in his way doth win,
> There playing him awhile till Anchor should come in."

The Avon rises in the north-east and flows in a south-westerly direction through the county and leaves it at Salford Priors, going on down through Worcestershire to join the Severn. The Avon divides Warwickshire into two portions and according to Brewer's writing in 1814 these portions were known as the Feldon or open country, and the Weldon or the Woodland area. The Feldon lies to the south-east of the river Avon and takes in all that stretch of country now mainly under grass but which just prior to his time had been largely under cultivation in open fields. The enclosures were being made between 1750 and 1800, for Wedge, writing in 1794, states that at that time there were still 50,000 acres of open field land. The Weldon was all the portion of the county lying to the north-west of the river and was always termed Arden and was perhaps rightly claimed by Drayton to have been the largest of the British forests, as it extended from the Avon to the Severn on the west and the Trent on the north. It is impossible to think of the Avon or to traverse Warwickshire without realising the world-wide importance of this part of England. Stratford-on-Avon, the birthplace of our greatest poet and playwright, Shakespeare, is visited annually by hundreds of thousands of admirers who gather from all ends of the earth to pay tribute to his wonderful genius. The farming of that area is also influenced by the demand for vegetables, meat and milk, and other farm produce required by this passing population.

SPECIAL FEATURES.

The land in this county is broken up into small farms averaging round about 150 acres and in many instances less, the average size of the enclosures being about 15 acres and of rather older enclosures 8 to 10 acres. Some of the farms have changed hands rather frequently in more modern times owing to the selling up of estates which has taken place within the last 10 to 12 years. This, too, has been responsible for the increased number of unfortunate owner occupiers.

The fences of quicks are generally good and it is safe to assume that it is a county second to none for fences, as the occupiers make a regular practice of laying and plashing a proportionate length of fencing every year. Some, it is true, neglect to give the necessary annual attention to their fences and have allowed them to become gappy and useless and been obliged to graze their land extensively to the detriment of their pastures. In this connection, hunting has played an important rôle in creating a strong incentive for the farmers to keep their fences in order. Many farmers enjoy a day out with the hounds and realise not only the advantage of a good fence to the huntsman as well as to himself, but also the lurking danger of a fence patched with wire and rails. The hunts, however, on their part encourage the farmers within their country to keep their fences in good repair by offering substantial prizes for competitions in hedge-cutting. The county is hunted by three packs—the Warwickshire, the North Warwickshire, and the Atherstone.

The land under arable cultivation is well farmed by men who are ever willing to try out new and progressive ideas and new crops. The land is farmed generally in a four or five course rotation, namely: (1) roots, wheat, seeds, wheat (or oats); or (2) roots, oats, seeds, seeds (both mown), wheat, oats, although great variations exist in the cropping and crops are sometimes added to or dropped from the rotation according to the prospects of the market and the condition of the land. A considerable proportion of the roots acreage is devoted to potatoes; about 7,505 acres were grown in 1927. This "potato patch" is concentrated round the thickly populated areas particularly the north-east of Birmingham, Coventry and the north of the county. An interesting point arises with regard to method adopted in one of these areas. The particular growers are catering for a definite market demand and the potatoes are planted at the width of three to four feet apart, consequently growing a high percentage of ware of big size. A brief glance at the statistics shows that although some years ago wheat was the main cereal grown its place has been taken in very great measure by oats. On June 4, 1923, the proportion was 34,855 acres of wheat to 23,003 acres of oats, whereas June 4, 1928, it is 21,403 acres of wheat to 24,213 of oats, the latter proving more valuable for use in feeding to stock when prices are unfavourable to the grower. There has been, as will be noted from those figures, a considerable drop in the corn acreage, viz., just over 10,000 acres in the last six years, and this has been effected by laying down to permanent pasture particular fields. An improvement on this would have been to increase the number of years in grass over the whole rotation by the introduction of a 3 or 4 years' seeds mixture. This would, in many instances, have been done had there been an adequate water supply in all the arable fields for the stock. The area under corn has been reduced as desired, but the whole output of the farm has also suffered severely where the shorter rotation has been persisted in, and it is doubtful whether in the end the change has been attended by a real economy.

One of the outstanding features of the agriculture of this county is the gradual but complete transition which it has made during comparatively recent times. The county is now essentially a dairying county, producing milk almost entirely for the liquid milk market. Prior to this change there were only a small number of farmers engaged in dairying who were cheese makers and supplied a few local markets with milk; the remainder were cattle or sheep feeders. The development in dairying has come about very quickly and milk has been produced temporarily on farms where the equipment and facilities were not entirely suitable for this purpose. The owners of the land have found that when the farm buildings were adapted for milk production the farm found a tenant much more readily and in this way rapid strides have been made to complete the conversion of the whole county to dairying. The rearing of heifer calves only is to be found in several areas; the bull calves finding their way to market for veal soon after they are dropped. The calves are reared on the smallest quantity possible of whole milk as the replacement by milk substitutes takes place about the fourth week—the whole milk always being required to maintain the basic supply agreed upon. The standard quality of the stock has improved considerably, but farmers by better use of their seeds in the arable areas and the turning over to longer leys would probably give the young stock a better opportunity for growth and development. The cattle are mainly Dairy Shorthorns with a few herds of Friesians and Ayrshires for the dairy. The grazing cattle are drawn from a wide range, consisting mainly of Shorthorns, Herefords, and crosses of these breeds, Irish, Welsh, and some Devons. The graziers have passed through difficult times and their success lies in their experience in buying in; many have found it difficult to face the high price of stores in the spring owing to uncertainty of the price of beef when they come to sell them out.

Taking the county through, it would be difficult to determine any breed of sheep holding pre-eminence. They are very mixed in type and breeding. There are a number of Cheviots, Suffolks, and half-breds, in short nearly every cross of note is to be found in the county, but the Suffolk and Ryeland and Oxford tups are most commonly used. The general practice throughout the county is for a flying flock to be kept, or a flock at most kept for two crops of lambs. Some idea of the quantity of all stock-carrying capacity may be got from the statistics, which show that per 1,000 acres the following stock are maintained:—

Cattle	250.
Sheep -	510.
Pigs =	69.
Poultry, including Ducks, Geese, Turkeys –	1,541.
Horses =-	36.

HORTICULTURE IN WARWICKSHIRE.

There are roughly 7,000 acres of the county devoted to Horticulture. The growing areas of the county are divided into two fairly well defined sections, which are as follows:—

North of a line through east and west of Kenilworth the Horticultural work conducted is chiefly domestic in character, i.e., allotment work. This condition is most probably a result of industrialism around the cities of Birmingham, Coventry, and the town of Nuneaton. The smoke screen is probably entirely responsible for this kind of cultivation, for potatoes are the chief crop grown. The commercial fruit-growing areas are chiefly situate south of this line beginning at the county town Warwick and extending to the south-west corner of the county, where around the townships of Stratford, Bidford, and Alcester cultivation is very intensive. Here plums are the chief tree fruit grown and extensive plantings of the local yellow and purple Pershore, yellow and purple egg plum, may be seen covering large areas. Generally speaking, commercial apple-growing in these areas is not extensive, only a few orchards being in evidence. A good deal of planting is now going on throughout the whole Avon Valley. The particular method of culture is most usually that of rows of trees 15 yards apart intercropped with breaks of vegetables and soft fruits. The greater bulk of these intercrops comprise such bush fruits as raspberries, currants, gooseberries, and strawberries, while the chief market vegetables grown are cabbages, brussels sprouts, cauliflowers, and broccoli. For a few miles north and south of this line of demarcation around the townships of Warwick, Kenilworth and Leamington, a good deal of underglass crops are grown commercially. These crops comprise tomatoes, cucumbers, grapes and lettuce of the cabbage varieties duly treated as catch crops. Many flowers which are grown for market in this area may be mentioned, chrysanthemums, bulbs of all descriptions, and roses being the chief crops.

DRAINING.

Considerable portions of the county suffer through water-logging and require draining. Mole draining in the stronger land areas has been successfully carried out by several farmers, and this practice should be encouraged. This has been a long-standing complaint in the county, as references are made to the necessity for more drainage by Wedge in 1794 and by Murray about twenty years later. Some of the land has been drained since the time referred to, but the drains in many instances have been put in too deep to be of much service. Mention should not be omitted of the early efforts to rid the land of its surplus water by Elkington, who commenced his work at Princethorpe in this county in the eighteenth century.

Traces of early land improvement schemes by means of irrigation are to be found in several parts of this county, more particularly at Arbury, and Stretton Baskerville, where the earthworks can still be seen.

CULTIVATION.

The county is on the whole well cultivated, but it would appear that there is a tendency on the lighter classes of land to carry the deep cultivation too far into the spring and summer months. The average rainfall is just under 28 inches and rather prolonged spells of dry weather set in in periods during summer the drastic effect of which may be mitigated by shallower cultivation with the object of preserving the soil moisture in the light, sandy and gravelly land.

The care and handling of the farmyard manure requires some further attention. This valuable improver of the soil is all too frequently allowed to lie about and waste away, often exposed to the leaching action of rain and seldom sufficiently compressed in the heaps in order to reduce to a minimum the amount of fermentation which takes place, so conserving the value of the manure as a plant food.

MARKETS.

In addition to the important market for cattle and sheep at Rugby and the large pig market at Birmingham, there are thirteen other markets for live stock throughout the county. These are all auction markets, and in view of the proximity of many of them to each other it seems desirable that some movement towards centralisation should take place, if only to allow more buyers to get together and make a keener competition and also to save the time of buyers which must be wasted in having to attend such a huge number of small (or comparatively small) markets. Rugby is by far the largest cattle and sheep market in the county and it is estimated that from July to December, the busy season, as many as 1,000 fat cattle are sold by auction in this market per week. The local butchers fill up their supplies and the surplus is sent further afield to the cities of Birmingham, Coventry and elsewhere. During the store cattle seasons, as many as 1,000 store cattle per week are sold by private treaty to graziers in the surrounding counties and a market for dairy cattle and calves is growing rapidly. Sheep are sold in large numbers in this market, for during the year ending March 31, 1926, 103,593 sheep were passed through for sale. Pigs and also live poultry are also sold by auction in this market. The other markets cater largely for local supplies. There are fourteen markets in Warwickshire where a wholesale trade in fruit and vegetables is carried on to dispose of the large and increasing supplies produced mainly in the south-west of the county and stretching north to Warwick and Bearley. At a number of live stock markets there are auction sales for eggs and live poultry. Wool is sold by auction at Rugby and Stratford-on-Avon.

LABOUR.

In the north of the county the supply of farm labour is greatly under the influence of the trade in the cities of Coventry and Birmingham and the mining areas and Rugby. When the state of trade is prosperous it is usually not only difficult to get extra help as casual labour but also to retain many men who have apparently settled to farm work. The boys who drift into farm labour are not inclined to remain at it and drift towards the city with its many attractions. This general tendency has not been so acute owing to the annual shrinkage in arable land; but it must soon be a pressing factor, as there are not sufficient young men coming forward to replace the old ones.

Casual labour is, as far as possible, done by piece-work and as much of the other work on the farm is arranged to be done in this way as possible by several of the more enterprising farmers.

The increasing tendency for farmers to go in for dairying has had the effect of creating a demand for milkers. Good milkers and stock men are usually scarce.

AGRICULTURAL INSTRUCTION.

It would be lacking in a paper of this kind to omit all reference to the provisions made for Agricultural Instruction. Lectures in agriculture were being conducted as far back as 1890–91, when a series of lectures to farmers were arranged and carried out. From then to 1910, however, no instruction of a very definitely agricultural nature was carried out except for the provision of dairying instruction which was carried on from about 1902 or '03 at Ollerton Grange, and later at Griff House.

There was also some instruction given, from time to time, in manual processes such as hedging, thatching and veterinary hygiene. In 1911, an Agricultural Education Committee was formed and an Agricultural Organiser was appointed, and from this time dates the provision of agricultural instruction and advice to farmers. From then onwards Young Farmers' Classes have been carried out as part of the routine from which arise the Discussion Clubs. Instruction and advice is also given in such allied subjects as Dairying, Poultry-keeping and Horticulture, by staffs trained specially to deal with both the practical and technical aspects of these subjects. The county is in the West Midland, or Harper Adams College, Advisory Province, and consequently, has a call on services of the technical advisers there whenever matters of a very scientific nature arise in connection with soils, insect pests and diseases of farm crops, bacteriology, farm costings and accounts, and animal diseases. The college also provides facilities for sons of farmers and farm workers and others in the county for courses of instruction by means of reduced fees. Additional assistance is also provided by the County Council by the award of scholarships which are granted annually as an inducement for those about to enter the industry so that they may acquire an intimate knowledge of it. The scholarships are available for courses in Agriculture, Poultry-keeping, Dairying, Horticulture, and during the last few years there has been an increasing demand for them from farmers' and farm workers' sons. The standard of quality of the milk supply has been very considerably improved as a result of instruction provided through the Clean Milk Competitions which have been carried out annually for the last four years.

The members of the staff of the County Agricultural Education Committee maintain constant close contact with the farmers throughout the county and are always available for giving advice regarding the various branches of their work.

WILLIAM IRONS.

County Education Office,
Warwick.

LIVE STOCK IN WARWICKSHIRE

WARWICKSHIRE may justly claim to be one of the most interesting counties in England. Is it not renowned in literary history beyond any other region of the surface of the globe as the native county of Shakespeare ?

> "For the man of all men is a Warwickshire man."

Geographically it is the heart of England and commercially its brain as far as some important industries are concerned. The soil is fertile, about five-sixths of the total area is under cultivation and the holdings are sizeable. But we are here concerned with its live stock, and in that connection we can say that, as far back as the middle of the eighteenth century Warwickshire was a household word in the breeding of good stock. Happily, that reputation, more or less, still exists to-day.

Who has not walked along the banks of the glorious Avon and not been impressed with the well-bred cattle grazing in those fertile meadows? Who has not wandered among the stately elms of Claverdon and not seen those splendid *Hummel Doddies*, the massive Scotch Shorthorns and the friendly Red Polls all belonging to various breeders in the vicinity? Hard-by and a little to the north-east can be seen a few excellent examples of that fine old Warwickshire breed—the Longhorn—in the possession of gentlemen, some of whom are descendants of the breeders in bygone days. Around Leamington Spa, southwards and eastwards there will be found some of the finest specimens of the present-day Dairy Shorthorns in the hands of well-known breeders whose names are to be reckoned with throughout the length and breadth of England in the breeding of good live stock. Although the Dairy Shorthorn largely predominates throughout the county, it must not be forgotten that there are herds of other well-known breeds of cattle which are performing just as useful a function in their own particular sphere.

The Ministry of Agriculture's Returns for 1930 show a total head of all live stock (excluding poultry) of 393,534. As statistics for each branch of the industry are given under the separate headings, suffice it to say for the present that, with a total area under crops and grass of 473,707 acres, it would appear that Warwickshire has a considerable stake in the live-stock industry of this country.

EARLY PIONEERS.

A complete History of British Live Stock could not be written without the county of Warwick looming large in its pages. About the year 1750 there lived at Canley, near Coventry, Mr. Webster, who possessed a very notable herd of Longhorns. His nation-wide reputation as a breeder very soon induced Bakewell, of Dishley, to pay him a visit which resulted in Bakewell purchasing two heifers with which to augment and improve his herd at Dishley. From the results of this purchase the famous bull "Twopenny" came into being. Although Webster was the outstanding breeder at that time, there were several other good herds in the county, notably those of Mr. Twycross, of Canley, and Samuel Burbery, of Wroxhall. At Rollright, too, on the borders of Warwickshire and Oxfordshire, was located the well-known herd belonging to Mr. Fowler, who incidentally purchased "Twopenny" from Mr. Bakewell, thereby making a name for himself throughout England as one of its foremost breeders and cattle improvers. The above-named gentlemen led the way in live-stock improvement and enabled the county of Warwick to occupy no mean place in the agricultural world at the end of the eighteenth and beginning of the nineteenth centuries.

With the advent of the Durham Ox and the quicker-maturing Shorthorn the Longhorn cattle went largely out of favour, but, as already mentioned, the county still possesses a few herds, which, of course, have been greatly improved.

Delving into the past history of the Longhorn, it might be of interest to quote here the following notice in the possession of one of the present-day breeders :—

> *February 26th*, 1787.
>
> To be pen at the Coach and Horses, Bartholomew Close, near West-Smithfield
>
> at SIXPENCE each,
> the LARGE and BEAUTIFUL
> WARWICKSHIRE OX.
>
> A BEAUTIFUL Long-Horned WARWICKSHIRE Ox, well worth the notice of all GENTLEMEN, GRAZIERS, BUTCHERS and FARMERS : he was bred in WARWICK CASTLE PARK by RICHARD RUSSELL of LILLINGTON, near WARWICK ; he is generally allowed to be equal (if not superior) in Weight, Beauty and Kindness of Flesh to anything of the kind ever yet bred, in THIS, or any other KINGDOM : and is supposed, by very competent Judges, to weigh 280 Stone, if slaughtered.
>
> The said RICHARD RUSSELL has bred several of the same kind of BEASTS, equal in Beauty, and near the enormous Weight above-mentioned.

As in cattle, so were there horse, sheep and pig pioneers, although their names do not occupy such prominence as those of the cattle-breeding industry, doubtless owing to cattle being the first species of live stock to be improved.

CATTLE.

Blessed with a fertile soil, equable climate, excellent shelter and medium-sized farms, it is only natural that Warwickshire should be termed a live-stock county, or rather a breeding county, since the breeding of good stock occupies the attention of almost every farmer.

When the Royal was last held in the county in 1898 there were, according to the official figures of the Ministry of Agriculture and Fisheries, a total of 102,536 cattle divided up as follows : Cows and heifers in milk or in calf, 35,233 ; other cattle, 67,303. The returns as at June 4, 1930, were : Cows and heifers in milk or in calf, 46,457; other cattle, 65,426; a total of 111,883. An examination of the foregoing figures will show that the increase is confined to cows and heifers in milk or in calf, this fact being entirely due to the increased demand for milk production through the rapid expansion and consequently the increasing populations of Coventry and Birmingham. It must, therefore, be deduced from the above that the prevailing breeds of cattle in the northern half of the county at least are those of the dairy strain, and, although here and there one finds British Friesians and other purely dairy cattle, the dominant breed is the Shorthorn, formerly of the dual purpose type but now with more pronounced dairy characteristics. The evolution of the modern Dairy Shorthorn in these parts was the natural outcome of the demand for more milk, but it is pleasing to notice that the Warwickshire farmer has not forgotten about the beast when breeding dairy cattle. Far from it. He has never believed in putting all his eggs into one basket, and so we find his holding to-day well stocked not only with good-class dairy cows but also with well-bred heifers, a few fattening cattle with the necessary sheep, pigs and poultry, a combination that is admirably suited to the system of farming. It may well be called Leafy Warwickshire for it abounds in excellent shelter for all classes of stock.

The cattle to be found in the extreme southern end of the county differ somewhat from those in the north, and this is to be expected since the soil in these parts is less fertile and, consequently, the land is largely laid down to grass or has been in grass for a great many years. Grazing, fattening and a little dairying are the main occupations of the farmers, and here, too, they are fortunate in an immediate outlet for their goods, having the towns of Rugby, Shipston-on-Stour and Warwick, all fairly large distributive and consuming centres, in close proximity. The types of cattle to be seen grazing in the fields are Shorthorns, Herefords, their respective crosses with each other, and the Polled Angus and his crosses with the Shorthorn. All of these types do well on this land. It is only within recent years that the Angus has got a foothold here, but he is making his presence felt, perhaps largely on account of the incessant demand by the people for small joints. Still there is room for all, and, when the feeder learns more and more about the production and fattening of quick-maturing stock, the type of beast that is desired will be forthcoming.

Like most counties, Warwickshire can also put up its quota of inferior bulls (few though they be), but the trend of opinion is veering towards the compulsory elimination of this undesirable, which, in the end, cannot help but result in good for all and harm to none.

Without making any comparisons with other counties, Warwickshire cattle will always command a certain admiration from those who may be privileged to traverse Shakespeare's native land.

HORSES.

In the palmy days of heavy-horse breeding Warwickshire possessed as fine specimens of the Shire Breed as could be found anywhere in England. In fact, the London Shire and other important shows throughout the land were considered incomplete without entries from Warwickshire, and the past prize-lists will inform us that these entries more than held their own. Notwithstanding the ups and downs of heavy-horse breeding the popular Shire is the draught horse of Warwickshire at the present time. Many a fine Shire gelding bred in the county has been sold to the corporations of Birmingham, Coventry and cities farther afield. Even to-day, despite the depressed state of the industry, splendid specimens of this breed are to be seen on many of the farms and in the towns. The Horse Breeding Act of 1918 revolutionised the draught-horse trade throughout the country, and although at one time it was thought that motor power would entirely abolish the heavy horse, this splendid fellow is still to the fore and coming back stronger than ever. Economy in transport still requires the heavy horse, and the improved type of Shire that is gradually being evolved will continue to hold his place on the farms and in the commercial world too. Warwickshire possesses several excellent breeders who are working on up-to-date lines and producing the type of Shire that is wanted.

The total number of agricultural horses in Warwickshire in 1898 was 15,646, and the number in 1930 was 11,057. The difference of 4,589 is not a very big drop when it is realised that a considerable portion of the arable land has had to be given up for the expansion of Birmingham and Coventry. Also, the modern road and increased motor traffic have undoubtedly helped towards this reduction. However, the Warwickshire farmer is still a lover of a good draught horse and always will be so long as he has land to plough and manure to cart.

Heavy-weight Hunters.

For generations Warwickshire has been a happy hunting-ground not only for the wily fox but for heavy-weight hunters. And this is where many farmers have developed a very useful and profitable sideline in addition to their ordinary pursuits. Many, indeed, are the hair-raising exploits of the farmers in the hunting-field. He is usually well mounted and can invariably hold his own among the first flighters. Unfortunately, the need for strict economy has lessened the number to be seen in the saddle to-day, but he is nevertheless as keen on light-horse breeding as he ever was. The Premium Thoroughbred Stallion has been of considerable assistance to him in his breeding operations, but he has horse breeding so much in his bones that it is natural for him to turn out a really good hunter at a meet or for sale. As long as fox-hunting exists, and it is a popular sport in the county of the Elm, so long will Warwickshire continue to breed the type of hunter that is wanted. Thus, when in Shakespeare's land the traveller will see good draught horses and excellent specimens of the hunter type and practically all bred in the county.

SHEEP.

Agricultural historians of the early nineteenth century all refer to the "Old Warwickshire Breed," which was a coarse long-woolled sheep and severely criticised at the time as an unprofitable species. Doubtless a just estimate judging by the following picture :—

> "His frame large and loose, his bones heavy, his legs long and thick, his chine as well as his rump as sharp as a hatchett, his skin rattling on his ribs like a skeleton covered with parchment."

Notwithstanding the above indictment, this old breed evidently had some merit, for we learn that a dispute arose between the great Bakewell and a well-known Warwickshire breeder as to the merits of the Improved Leicester and the Old Warwickshire Breed. History relates that these gentlemen eventually agreed on a cross between the two as being the best sheep at that time. This improved sheep continued to be bred in Warwickshire long after Bakewell's death, but, as science advanced and the palates of the people became more refined, there was a gradual change over to the shorter woolled and quicker-maturing varieties. This evolution particularly suited the arable farmer, as it permitted him to feed off so many sheep annually for the immediate consumption of the rising population of Birmingham and Coventry. In those days a leg of lamb was practically unheard of in the houses of the great, so that only two or three shear sheep were put into the folds for fattening. But with rapid developments in sheep breeding taking place all over England the Old Warwickshire Breed gradually lost its identity, and in its place other sheep were brought into the county from near-by centres. Oxford Downs, Shropshires and Southdowns have all been favourites at one time or another. So, to-day, Warwickshire cannot boast of any particular breed that is indigenous to the county. Of course, it does not pretend to be a sheep county and does not possess now more than a handful of breeders, who, therefore, deserve every encouragement in their herculean efforts to improve the stock. Content are the farmers with their own particular fancy of cross-breeds, whatever they may be Many are home bred, but a large proportion is imported from neighbouring counties and from the North. According to the Ministry's figures, there was a drop of over forty thousand sheep in the county between the years 1898 and 1929. At June 4th, 1930, the sheep population was 232,417.

With more up-to-date knowledge of sheep husbandry, it is to be hoped that Warwickshire will improve on its present system of selection and gradually evolve a more uniform type of sheep.

PIGS.

Here, again, Warwickshire can claim a certain amount of notoriety as the birthplace of the Tamworth pig. In the eighteenth century dark red and grizzly pigs were general in those parts of the Midland counties where a considerable number of oak and beech trees were grown. Although the real origin of the Tamworth is somewhat obscure, it first became noticeable as a distinct breed in the district surrounding the town of Tamworth in the north-east corner of Warwickshire—hence its name. The breed has been kept perfectly pure and is quite distinct from any other variety known in this country. Although not a general favourite throughout the land, the cross between a Tamworth boar and a Berkshire sow produces excellent bacon pigs. These two breeds were general favourites for many years until the rise of the Large White which ousted them from popularity. Even in Marshall's days the Large White was the favourite breed, although of a much larger kind than is seen to-day. At one time there was no county in England where more bacon was cured and consumed in proportion to its size than in Warwickshire. So, to-day, the dominating breed of pig is the Large White. In most instances the boar of this breed is used for crossing either with Large or Middle Whites. In some districts the Large Black pig is favoured, especially where this cross with the white pig finds a good market.

During the past thirty years statistics tell us that there has been little change in the pig populations. The returns for 1930 show a total of 31,608. The gradual elimination of the non-pedigree boar has benefited this industry, but the real improvement came with the location throughout the county of premium boars under the Live-Stock Scheme. The Warwickshire farmer is keenly alive to the importance of the pig branch of his business and is taking considerable pains to breed not only the best but also the type that is required by the market

LIVE-STOCK IMPROVEMENT.

Since the War great strides have been made in Warwickshire in the improvement of the stock, principally owing to the influence of the Ministry of Agriculture's Live-Stock Scheme. At one time a certain apathy towards the scheme existed among the farmers, but as the value of the scheme was being evidenced here and there, practically every part of the county to-day is covered by some branch of it. In all probability the medium size of the holdings and their proximity to each other was fruitful ground to work on, but, nevertheless, the practical interest taken in all branches of the scheme has given the Warwickshire farmer an impetus to further improve his stock that could not, perhaps, be got in any other way. He is learning the value of breeding the best. In certain districts, and particularly in the area around Corley and Canley made famous by Webster, the Longhorn breeder, the scheme has shown up to wonderful advantage. There the farmers are all using premium bulls, boars and stallions, and it is a rare treat to walk round the district and see field after field of splendidly bred coloury cattle, a uniform type of pig on the holdings and good draught horses in the plough. So stock-proud are the owners that they manage to hold an annual and most successful Agricultural Show among themselves and exhibit stock that would grace any county show. The Live-Stock Scheme has been a boon to these parts. But other districts, too, especially in the rearing areas in the South, are benefiting by the location of high-class premium sires. Where a district has failed to take advantage of the scheme in the past it is pleasing to notice that the farmers there are endeavouring to emulate the example that has been set them by their neighbours and are now taking a more intelligent and practical interest in the great good that the scheme is doing. Apart from the location of premium sires and the travelling of high-class premium stallions the Warwickshire farmers have vastly increased their knowledge of economical milk production through the milk-recording branch of the scheme. The urgent need for economy has somewhat affected the membership of the County Milk Recording Society, but the lesson has been learned, and there are better dairy herds in the county to-day than there were, say, ten years ago. Where official recording has ceased private weighing is being largely carried on. There are thirty-three premium bulls and fifteen premium boars located with five Heavy Horse Societies operating in the county, and the Milk Recording Society has a membership of 128.

Only good can come from the operations of the Live-Stock Scheme and the English farmer to-day is conscious of that fact.

POULTRY.

Warwickshire has never been looked upon as a poultry county in the same way as Lancashire, Essex and several other counties. In 1928, according to Sir Edward Brown's figures, the excess consumption of eggs over and above production amounts to £1,336,000. However, that year saw a remarkable change, brought about no doubt by the general farmer realising the economic value of poultry on the farm. Whilst the increase in fowls on agricultural holdings in the county from 1927 to 1928 was 20,224, the increase from 1928 to 1929 was 44,169, or more than double. The industry may truthfully be said to be "booming."

Anyone who had travelled through Warwickshire three years ago and made the same journey to-day could not help being impressed with the mushroom-like growth of obviously new poultry houses which have sprung up about the countryside. Thus has educational work been successful in convincing the farmer that housing poultry in "any old building" failed to produce eggs in winter when egg prices were at the highest.

Warwickshire has lying at its door one of the best markets in England for its produce, namely, Birmingham, with its huge industrial area. Coventry and Rugby also absorb a large share of the produce, and, in winter, prices rule high and demand is never met.

Every county is said to have its own peculiar preference for a certain breed of fowl, and in Warwickshire the preponderance of Rhode Island Reds is very marked. This is probably due to the fact that the climate of the county requires a hardy breed.

One of the chief factors in encouraging the growth of egg production was the scheme inaugurated in 1927 by the County Agricultural Education Committee of approved poultry-breeding farms. These farms are under the supervision of the County Poultry Instructor and all stock must be trap-nested and tested for Bacillary White Diarrhœa. In 1927 the number of approved farms was six and 10,000 eggs and chicks were distributed. In 1930 there were twelve farms and orders were placed for about 30,000 eggs and chicks. The reports circulated by farmers at markets of the production of eggs from the pullets obtained from these approved farms quickly spread, and in consequence the majority of these farms are booked up by the end of May for the ensuing season.

Disease is always a factor to be reckoned with in poultry-keeping, especially that scourge in chicks called Bacillary White Diarrhœa. Preventive measures are usually left to the individual, but the County Agricultural Education Committee determined to stamp out this particular disease as regards chicks raised in the county. Poultry breeders were invited to co-operate by having their breeding stock blood-tested through the county scheme. A pathologist was engaged to take the blood samples and carry out the tests. Arrangements were made to have all the testing carried out at one period and the expenses pooled. The cost being reduced to the lowest possible figure proved an inducement to breeders, and in 1930 10,000 fowls were tested

Table-poultry production has not met with success in the county, for the chief reason that the local wholesale buyers prefer to obtain the chickens and fowls alive. In consequence the only table poultry produced by the farmers is the surplus cockerels and old hens.

In the coming autumn the county authorities are establishing an Egg Laying Trial, thus coming into line with most of the other counties; and these trials should prove a further incentive to extend the poultry industry within the county.

ALEXANDER SKINNER.

Buckshorns, Boreham,
Chelmsford.

ECONOMICS IN PIG PRODUCTION.

THE profitable study of any business must start with what is chronologically the wrong end. It is the last stage and not the first stage of the long series of transactions common to all manufacturing which governs the whole process. So we begin by selling the pigs. And for this purpose we don't sell it whole and alive as the pig keeper does. We sell it dead and in small pieces, as rashers, sausages, balls of lard, ribs of pork, etc., cooked and in the dish; appetising to the nose, tasty in the mouth, and certain to provoke repeat orders for its merits of quality and price. Only with the knife and fork laid aside we can begin to go backwards through the long train of anxieties which led up to this happy state of digestive satisfaction.

The first painful decision must now be taken. Is it the breakfast dish or the dinner dish on which we intend the offspring of Highborn Beauty III, and Nulli Secundus IV to appear? This will be the first of many decisions which will fall to be made, and I see no reason why the pros and cons should not be set out in tabular form (*see next page*).

It will be seen that the balance of pros and cons is very even. On balance since 1926 the much higher price for pork has probably turned the scale, but certainly a higher price is required. Proximity to a first-class pork market, such as London or Birmingham, would probably be conclusive; whilst Cornwall or Norfolk pig keepers will be well advised to consider bacon production on account of the distance from such markets. For whichever of the two markets we cater, it would be a mistake to imagine that we can have the best of both worlds. The market for bacon will probably be at its lowest in September, October, November and December, just when the pork-feeders' pigs that were 12 weeks old, and under, in mid-May are coming on to the bacon market.

FOR BREAKFAST		FOR DINNER OR LUNCHEON	
Bacon and Ham		Pork	
Pros	*Cons*	*Pros*	*Cons*
1. Unlimited market. (£50,000,000)	1. Unprotected market.	1. Protected market.	1. Very limited market. (£5,000,000.)
2. Longer period of comparative immunity from disease.	2. Slower turnover; killed at 160 lb. dead weight.	2. Quick turnover. Killed at 70–80 lb. dead weight.	2. Slaughtered almost as soon as the period for disease is over.
3. Saleable throughout year.	3. Requires more expensive equipment.	3. Less expensive equipment.	3. Unsaleable mid-May to mid - Sept., inclusive.
4. 21 – 25 per cent. loss from live weight to dead weight.		4. Bigger weight gain per lb. of food consumed.	4. 30 per cent. to 35 per cent. loss from live weight to dead weight.

Having once decided for pork or for bacon, the next and consequent decision must be as to breed. This is a most vexed question, but equally should be studied from an economic standpoint, with perhaps a reference to the Smithfield and Birmingham carcass competitions as a guide.

I will content myself with saying that the obvious Breeds or Crosses for pork must contain Berkshire or Middle White, and the same for bacon must contain the Large White on one side anyhow. The Pig Industry Council has issued an authoritative finding on this question, and I may perhaps safely set out the pros only as claimed by the respective breeders of such contrasting breeds as Berkshires and Large Whites. But I do not claim that this is exhaustive.

BERKSHIRES.	LARGE WHITES.
Pros.	*Pros.*
Early maturity.	Larger litters.
Fine bone.	White hair and no seedy-cut.
Good quality flesh.	Light back fat.
Good streak.	Long sides.
Low loss ratio from live to dead weight.	Finer shoulders.

Much may safely be left to the preference of the particular locality or market that is to be supplied.

It should be remembered that the favourite pig of the district will often make an extra shilling or so in the store market and that for a breeder the sale of stores is at odd times more profitable than feeding.

Now that the breed is settled, and I have skidded round that corner, the next problem is whether

(*a*) to breed only,
(*b*) to feed only,
(*c*) to breed and feed.

Now the choice of (*a*) was the undoing of a good half of the men who started to keep pigs after the War. In their case breeding meant breeding of pedigree stock, and it is fairly obvious that the breeders of pedigree stock must be few in number, exceptionally good judges and prepared to lay out big money for the best blood, also for showing and advertising, if they are to get the big prices which alone justify such an outlay.

On the other hand, the breeder of ordinary commercial stock for sale as stores will find that his pigs, as a rule, are not in big demand, except at about two periods in the year, i.e. when home-produced foodstuffs are superabundant. He will in consequence probably be forced to feed himself pigs weaned during the rest of the year, when he drops at once into category (*c*).

(*b*) The man who feeds only is perhaps most often an in-and-out man. He has skim milk, or whey or potatoes or barley for which he wants a temporary outlet, or he may want his orchard dug over and manured, or the land prepared for carrots. If he is an owner of woodlands he may wish to avoid paying £5 an acre for the clearance of a cut-over area from brambles or bracken.

There are pig pundits who say that the in-and-out man is the nigger of the trade; that he disturbs the regularity of the flow and is largely responsible for the fluctuation in pig prices. If so, this stricture applies rather to the man who goes in because stores or food-stuffs, or both, are cheap, than for the reasons given above.

But I hold that he is a useful corrective to low prices for foodstuffs, and fully justified in respect of his use of his farm's by-products. In his case the economics rest rather on the basis of his primary products and need not be discussed here.

But there are a fair number of feeders whose sole aim is to fat stores regardless of the other sides of farming. A number of these are swill-feeders, men who are well placed to collect the waste of large towns. There are also a comparatively few cases of farmers who feed and do not breed, and still a fair, though diminishing, number of cottage feeders. For all these the pig is the primary concern and the economics of feeding will be the same for them as for the breeder-feeder in respect of his weaned pigs.

It will be convenient, therefore, to consider at this point the problems that arise in the conversion of weaned pigs to pork or bacon. These centre round :—

Feeding,
Labour,
Hygiene,
Equipment,

and in this article I am concerned solely with the question of costs and profits.

Careful calculations have been made to show that the actual average cost of a weaner at 8 weeks old, weighing 30 lb., with food at 11*s*. cwt. is 25*s*. ; and though at this moment food is nearer 7*s*. 6*d*. cwt., yet this price is so exceptionally low that I propose to take 11*s*. cwt. as the value of food throughout my calculations.

I should perhaps mention that 30 lb. is, in my experience, a low average for weaners at 8 weeks. However, the problem is to know how little food will produce say either (1) a porker of 100 lb. live weight, and 70 lb. dead weight, with the quality that will fetch the highest price in the London market ; or (2) a baconer of 210 lb. live weight, and 160 lb. dead weight, most suitable for the Wiltshire side trade.

The first thing to remember is that speed in fattening is important. The quicker it is done, the less will be :

(1) the house room and plant required,
(2) the interest on the above,
(3) the labour required,
(4) the interest on the cost of the pig, and on the food it consumes,

also, within reason, the better the quality produced, and therefore the finished article.

It is for these reasons that breeds possessing the quality of early maturity are specially valuable. I have heard the late Professor Wood of Cambridge say that there was some evidence that Berkshires, for instance, became sexually and physically mature considerably earlier than some other breeds.

For these reasons also a litter of, say, 7 even quick-growing piglets often pays better than one of 10 which is uneven and slow. "Dollies" or "Darlings" very seldom show any profit at all. The age at which ground is nearly always lost is between 8 and 12 weeks. At this age the want of the dam's milk, especially where no skim is fed, and the effect of castration are being felt; it is at this age that worms are taking their heaviest toll of tissue, and it is not until a pig reaches 16 weeks that its main troubles can be said to be past.

I recently weighed a few pigs which had not been doing too well, but found that in the seventeenth week they put on 11 lb. of live weight for 23 lb. meal.

In the production of porkers these early troubles tell with greatest effect. Over the longer age of the baconer the weeks of low gain before 4 months average out with the weeks of quick gain after 4 months. Therefore though it should be quite safe to reckon on an average daily gain of 1 lb. live weight per day over the life of a 210 lb. baconer; yet in the life of a porker this is considerably harder to realise.

Personally, I do not find that the bulk of my pigs at 100 days, or 14 weeks 2 days, old weigh 100 lb. live weight, and would be satisfied if they reached this weight at 18 weeks or 126 days. But after 16 weeks to bacon age the rate of gain should be over, rather than under, 1 lb. per day. The pork season from mid-September to mid-May is 8 months, or nearly 35 weeks. The fattening yards for 8–16 weeks old pigs should, in that time, see four batches come and five go—to market. The bacon pens, or in my case, paddocks, will be occupied from 154 to 180 days and not furnish much more than 2 batches of finished animals.

In this connection a very notable adoption of Swedish practice in housing has been set up by Mr. Marsh, of Messrs. Marsh & Baxter Ltd., by whose permission I am authorised to state that his new fattening house, costing £1,750, and holding 330 pigs at a time, turns out three batches of 9-score baconers per year, starting not at 8 weeks, but at 10–12 weeks, and finishing at 28–30 weeks old.

On Mr. Marsh's basis with bacon to-day at 13*s*. 6*d*. score each pig-place sees approximately 3 × 98*s*. 6*d*. — £14 15*s*. 6*d*. of value created per year. But calculated on the basis of only 1 lb. live weight gain per day throughout its life, and entering the pig at 8 weeks, weighing 30 lb., each pig-place will yield £10 12*s*., showing a great advantage to Mr. Marsh's system.

With pork at 20*s*. per score to-day (Smithfield price is 7*s*. 8*d*. to 8*s*. 4*d*. per stone of 8 lb.), each pig-place sees approximately 5 × 48*s*. = £12 of value created per 10 months during which it is in use, the smaller pig, of course, needing less accommodation.

I am building a 3-pen pig yard for pork, which on the above basis will yield £720 per annum, and will cost £250. Mr. Marsh's building will yield £4,867½, and cost £1,750—the comparison is very close.

This may seem a long digression on the effect of quick finishing on overhead costs of equipment; but these are matters in which there is a choice between the wrong and right way. As to the effect on labour, it is at once apparent that by every day by which the pig's life on the farm is shortened, the labour costs will be correspondingly lightened.

Will it then pay to increase the weight of food with a view to speeding up the process? The answer to this is that, food being anything from 70 per cent. and upwards of the cost of a pig, it can never pay to feed more than will bring about the lowest possible ratios of food to dead weight gain.

During 1929 with a 40-sow unit, and selling for pork, my overheads were 26 per cent. of my total costs. But it will pay to feed correctly and to keep the young pig going steadily forward. There is, however, a limit to what can be economically fed. I have myself abandoned very reluctantly that great labour-saver, the automatic feeder for baconers above 22 weeks, and have found the benefit, although I have advocated its use in the past. Porkers do not appear to exceed their ration when on self-feeders.

But in the mass of literature that has been devoted to balanced rations, vitamins and the best food for the pig, there has been a notable absence of information backed by adequate experiment on the minima and maxima profitably feedable at various ages. With 8-weeks weaners I begin at 2 lb. per day for the first 2 weeks, and I find an 8-weeks pig will not eat more than 2 lb. meal per day. I go on to 2½ lb. at 10 weeks—a further ½ lb. at 12 weeks, 3½ lb. at 14 weeks, and 4 lb. at 16 weeks. On this basis, if I can reach 100 live weight in 16 weeks, I have fed 194 lb. meal plus green food since weaning, for a live weight gain of 70 lb.; if I reach it in 18 weeks I have fed 250 lb., which at 11*s.* cwt. costs 24*s.* 9*d.*, and I should be well satisfied if I could average this last rate of gain.

A series of experiments with sufficient numbers of average, not picked, pigs, fed on an economical balanced ration and weighed weekly from 8 weeks to 28 weeks, would throw a good deal of much needed light on this subject.

The very useful table of daily gains over 3 years at the Smithfield Show, published by the N.P.B.A. in the *Pig Breeders' Annual*, gives the following results:—

Average daily gain in live weight of all pigs in the Show	1·20	lb.
Average age of porkers under 100 lb. live weight	117·4	days.
Actual average live weight under 100 lb. live weight	91	lb.
Average daily live weight gain of above porkers from birth	·777	lb.
Whereas 21 pigs of an average age of 212 days had made an average daily gain in live weight of	1·22	lb.
And had an average live weight of	262	lb.

It may be assumed that these Show animals had received the greatest weight of food it was wise to feed; but actual weights of food are not given.

Reams could be filled as to economy in feeding. The rough rule is 1 lb. per day for every month of age, and 1 lb. live weight gain for 4 lb. food. But in the Svalof tests, this figure is reduced to as low as 3·23 lb.

The following points have most bearing on this subject, apart from breed and strain:—

(1) Frequency of feeding. A pig's stomach is much like ours, and we shouldn't like only one meal a day. Pigs on a self-feeder generally take one snack at midnight.
(2) Warmth and dry bed in substitution for carbohydrates.
(3) Enough good water with the chill off.
(4) Green food.
(5) Balanced ration.
(6) Minerals enough and not too much.
(7) Plenty of trough room.
(8) Sizing of pigs.
(9) Good buying of food-stuffs and right employment of home-grown food.

LABOUR.

Much pig-keeping is carried on by the part-time labour of the owner, the cowman or other farm hand, and it is not until a fair-sized unit is reached that the services of a whole time man are required. Neither am I in a position to give the figure of labour cost for feeding only. But where breeding and feeding are carried on together, there is some agreement with my experience that one man has a full job looking after 40 sows and their progeny. This should mean the breeding, fatting and despatch to market of 480 pigs annually. This man is not, however, expected to do his own bulk-carting of food and water, or erection and larger repairs of fencing and houses, and these services may be reckoned as equivalent to another half of a man's time.

On this basis labour plus commission costs 8*s*. per pig sold. It must be remembered that the labour on bringing about the birth of the young pig and its rearing to 8 weeks absorbs a large proportion of this, and that this portion of the labour cost is the same whether pigs are reared for pork or bacon. However, my figure of 8*s*. per pig for labour cost is based on a breeding and feeding establishment where the great bulk of the pigs are sold before 5 months of age. A similar establishment with bacon as its aim would mean a higher labour cost. I venture to think that many feeders, particularly of pork, do not realise how high their labour costs.

And even this figure is only possible if considerable attention, and some expense, is first devoted to the lay-out. After all, the breeding and feeding of 400 pigs involves handling 150 tons of meal, even where small pork is mainly sold. So that it pays to arrange for the meal on delivery to be hoisted to an upstairs store, mixed there, and shot down into bags via a hopper. If possible this lower floor should not be below cart height.

And further, 400 pigs have to be driven, caught and put into lorry every year, so that it pays to have a catching pen equipped with loading bank and weighing machine. This should be placed at the central yard, and though it must be substantially built, it can be very small. The layout of the water supply can, of course, be made to economise labour, and every pen must be accessible by farm road. Mucking out must be avoided except in the case of the fatting pens. Luckily open-air runs for the breeding stock remove this cost from the pay-sheet, although per contra, they tend to waste of manure.

EQUIPMENT.

I have accepted a figure of £120 per annum to cover the cost of housing and plant for a 40-sow unit. After allowing for depreciation, which is high, especially on fencing and on loose plant, such as troughs, this provides for a capital expenditure of, say, £1,000. Most people use a certain amount of old buildings, and this figure is not easy to arrive at.

I have calculated on the basis of	£250	cost of huts for breeding stock,
	£350	permanent yards for fatting in,
	£150	permanent mixing store and weighing pen,
and 3,000 yards fencing of 8¾ acres @ 1s. 3d.	£190	
	£940	

to which must be added cost of troughs and loose plant; and if water is laid on an additional sum to cover this, which could be set against wages.

I allow £30 for rent of the necessary grass land, which will be approximately 25 acres if the fatting yards are well employed.

Rates, vet., commissions, carriage and office expenses will amount to about £100.

Part horse employed can be reckoned at £50.

And these costs added to wages will amount to about 25 per cent. of the total cost of production or 20*s.* 6*d.* per pig bred and sold at the rate of 1 pig per sow per month.

The cost structure of the pig of 100 lb. live weight is then built up as follows:—

	s.	*d.*
Cost of weaner	25	0
Food at 11*s.* cwt. 8–18 weeks	24	9
Labour and overheads	20	6
	70	3

less, however, the proportion of the labour and overheads already included in the 25*s.* for the weaner, say 6*s.*, leaving a final cost of 64*s.* 3*d.*

However, I must admit that the figures as to overheads and their division between the weaner and the fatting pig are not easy to elucidate.

HYGIENE.

In a paper dealing with costs, the obvious point must be made that very little can be afforded on veterinary expenses. Yet the pig is just as susceptible to bad conditions, and perhaps more so to infectious diseases, than other farm animals.

His low value per unit precludes anything more than mass treatment, as in the case of sheep. Therefore, like the sheep the general conditions of his existence must be arranged so that he has a natural tendency to health. It is for this reason that I set the greatest store on all breeding stocks being free of a good grass run, and of penned stock receiving green food, avoiding overcrowding and damp or draughty lying.

Of the pig's diseases, the group comprising pneumonia, cramp, sunstroke, can be set down to faulty housing; the group comprising the scours, enteritis, colitis, inflammation of the serous membrane, can be set down to faulty nutrition; the group comprising the infectious diseases, such as swine fever, foot and mouth, anthrax, can be set down in the main to buying in markets, and this also it is possible to avoid.

But there is one infectious disease, viz. erysipelas, which though also spread through markets, is now *adscriptus glebæ* over so much of England that it calls for special measures. Personally I have found the serum inoculation at 1*s.* 6*d.* per pig for 10 c.c. a very sound investment.

There remains the group of parasitically bred diseases, such as parasitic pneumonia, and as to this, change of soil is the most obvious remedy.

I have now dealt, however cursorily, with the main factors affecting the costs of fattening pigs.

It remains to deal with the figures affecting the breeding stock. But having accepted a figure of 25*s.* per weaner of 30 lb. most of this ground has already been covered, and the problem is how to breed and raise enough weaners worth this figure and at not more than this cost.

I have postulated 480 weaners, weighting 30 lb. a year from 40 sows, and this is reckoned on 2 litters of 7 each, every 14 months, being reared to maturity, by no means an easy task.

The most thorough control of pigs of which I have heard was that carried out in the Province of Malmohus, in Sweden, by Axelsen, with 2,222 litters of Large Whites. Here the litters at birth averaged 10·16 and there survived at 3 weeks 8·10, a loss of 20·34 per cent., of which loss 15·65 per cent. occurred in the first week. By 6 weeks the mortality percentage was 25·84, reducing each litter to 7·57. The mortality figure is not carried beyond this age: but it will be seen that there is little margin, if 7 pigs per litter are to reach the butcher. A point worth noting is that the biggest litter in the life of a sow was her sixth, although the greatest number of survivors occurred with her fifth litter.

The American Berkshire Record, Volume 63, quoted in the N.P.B.A. *Gazette,* records 1,400 litters with an average at birth of 8·792, and an average reared of 7·002.

The N.P.B.A. farrowing returns for 1929 cover 7,870 litters of pedigree Berkshire, Large White, Middle White, Tamworth, and Wessex Saddleback pigs.

These litters averaged 9·56 born,
7·30 reared,
showing a mortality percentage of 23·64, or a loss of 17,910 piglets.

These three sets of figures approximate closely, and I think it may be assumed that the figure of 7 survivors to killing age per litter, which I have postulated, is a not in possible task. Fortunately, mortality after weaning is, or should be, light; this year, in my herd, under 2 per cent. of those weaned.

In this connection it should be remembered that I am demanding

7 pigs × 30 lb. at 8 weeks = 210 lb., and that
6 pigs × 35 lb. at 8 weeks = 210 lb., also.

Axelsen's control showed very definitely that litters of over 12 pigs do not pay, and without going here into the details of the live weight-gain-ratio-to-meal-fed during the first 8 weeks, it may be said that the general inference is in favour of 8 pigs reared per litter being the optimum.

To reach this result, then, is the aim of the breeder. He will receive 12 × 25*s*. per sow per year = £15. Out of this sum he must pay for her food, approximately 1 ton per year, and write off her first cost as a gilt, say £8 in 4 years, less her final sale price, say £6, pay for the boar, and overhead costs

6*s*. × 12 = £3 12*s* Strictly she should bear also her share of labour costs, in which case 25*s*. would not pay for the weaner, but labour costs have already in this paper been distributed over the fatting pigs.

Greater authorities than I have laid down this price of 25*s*. per weaner. My candid opinion is that 30*s*. with food at 11*s*. cwt. is nearer the mark.

With the problems of genetics, of nutrition, housing and care which the breeder must solve, this paper cannot deal. Its object has been to set out the cost structure of the pig, to indicate along what lines the principal economies can be effected and the greatest dangers lie, not forgetting the market to be studied, if a profit is to be reached.

If that market were less subject to dumping, this paper would have been written with a better heart.

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REPLENISHMENT OF DAIRY HERDS WITH HOME BRED HEIFERS.

SYSTEMATIC recording and measurement of events on typical commercial farms, combined with statistical examination of the records over a period of years is, in the opinion of the writer, the best method of obtaining useful and suggestive information for farmers and research workers. Any facts obtained in this way must be of value to those engaged in farming whether they serve to confirm or contradict existing opinions. They may well settle points of doubt or dispute and provide accurate information on subjects of everyday interest. Similarly they cannot but focus attention on the constantly recurring problems which confront the farmer. These problems are legion in number and infinite in variety. If, therefore, sufficient recording were done there would be no lack of opportunities for well-directed research. There are obvious advantages, too, in a system in which research is guided by, or originated from, ascertained facts from the field of practice. "Practice with Science" is excellent, but a first condition for success in such a combination is that problems on which Science is engaged should be directly related to those in the field. That, in effect, is the argument for systematic recording or the continual measurement and grading of the farmers' problems. When such a system is sufficiently developed the harnessing of Science with Practice will be accomplished.

Few commercial farmers, however, are in a position to undertake systematic recording, although many valuable historical records have been obtained from such sources. It is necessary, therefore, to look elsewhere. At present excellent opportunities for initiating work of this kind are found on the farms attached to the recently established Farm Institutes. On these farms it is possible, as a rule, to maintain a strictly commercial policy in farming, while at the same time measuring and recording results. For example, the examination of crops from the point of view of spacing and plant population is a simple process and if done, as it has been in the case of roots and cereals, in a systematic way, preliminary, almost elementary, information is obtained which provides a necessary basis for a variety of other investigations. Similarly a few years' recording with grass sheep has revealed the weakness and the strength of certain breeds of ewes and of certain crosses. In contrast to this method, experimental work in the past has been mainly concentrated on trials carried out under artificial conditions, such as the long series of manurial and feeding trials which have been conducted during the past half-century or more. A more useful approach to the actual problems of the farmer, as experienced, is made through systematic recording of events on well-managed farms and by the endeavour to measure and define all that is involved in the term "good management."

This leads to the consideration of a problem of the first magnitude which must be acutely felt by those who are responsible for educational farms—the maintenance of our flocks and herds in a state of health and productivity. For the purpose of this article, however, the subject is limited (and the limitation leaves scope enough) to the maintenance of a level output of milk all the year round from a herd of dairy cows kept up to strength by the introduction of home-bred heifers. The problem is not dismissed by the admission that in a few cases the desideratum is already being accomplished. The fact remains that those who succeed are in a minority and their example makes the contrasting results of the majority all the more serious.

In any herd, by systematic recording for a series of years, a variety of information can be obtained. Milk records make it possible to determine the milk yields of full time and part time cows and to measure progeny records. Other records may include the number and rate of replacements, the cost of replacements and of depreciation, the incidence of disease and sterility, birth weights, rate of growth of young stock as well as intermediate and final cost accounts. In one herd in which an effort has been made to keep some of these records, the most persistent problem has been the practical one of maintaining the herd up to strength from within. This herd is undoubtedly a good one. On two occasions it has gained distinctions in the

County Herd Competitions in the class for herds judged by inspection and milk yield. More than half of the full time records during the past eight milk-recording years have been made by cows approved as "foundation cows", qualified pedigree shorthorn dairy bulls have always been used and all well-formed heifers have been reared. Financially, the herd has been the mainstay of the farm, and the following figures give the average yields of milk during the past eight or nine years :—

	No.	Years.	Milk-recording Year Average lb.	Average Milk yield per day in milk. lb
Full time Cows . . .	108	8	7,445	25·2
Part time Cows and Heifers .	131	9	3,001	22·3
Average of all full time and part time cows and heifers . .	239	9	5,009	23·7

It is apparent from these figures (which are interesting from various points of view) that a "milk record" average of 725 gallons or 2½ gallons per cow per day in milk has been secured. But the feature of the results which has to be stressed here is the fact that in spite of the use of high-priced bulls, of known dairy pedigree, and heavy costs in rearing heifer calves out of recorded cows, it has been necessary each year to purchase either heifers or cows to maintain the herd and the milk supply. Surely a herd of cows, kept under good conditions of management, ought to be capable of breeding enough heifers to maintain itself. If not, the reasons require investigation.

RATE OF REPLACEMENT.

During the past year or two the Royal Agricultural Society of England has been active in stimulating efforts to ascertain the causes responsible for shortening the useful life of the dairy cow. Until these investigations define accurately the proportion of disposals at various ages as well as the relative incidence of each cause of disposal, it may be assumed, on existing evidence, that the majority of cows are replaced after between 2 to 6 years' milking life. Obviously, herds with an average life of 2 years cannot be self-supporting; a more common average of 3 years would increase the prospects, but even a 4 year average might not be continually sufficient. If 1 cow in 4 has to be replaced by a home-bred heifer, then in a herd of 24 cows only 6 heifers per annum are required. An expectation of 24 calves may be reduced to 20 by accidents at birth, malformation, abortion, sterility and delayed pregnancies. A slight preponderance of bull calves may leave 9 heifers to rear and, of these, not all may be considered suitable. *The survivors have then to pass through the critical early months of rearing, reach the age of* 3 *years and prove to be in calf.* In all of these directions there are risks of losses and disappointments so that a little " bad luck " may easily result in failure to get the 1 in 4 required to replace a moderate cow wastage. As a complementary study to that on the causes and incidence of wastage in dairy cows there is a great deal to be said for a similar investigation into the causes that prevent heifers, bred for the purpose, entering the herd as milk producers. With the object of stimulating interest in this subject the writer appeals for support in conducting a preliminary enquiry. Only by the collection of data from commercial farms can a measure of the need for more comprehensive investigations be obtained.

REPLACEMENT DUE TO LOW MILK YIELDS.

So far the problem of the milk-selling farmer who wishes to secure all the advantages of rearing his own heifers is only partially revealed. There are still two aspects of the subject to consider and of these that of low milk yield from home-bred heifers is most important. Too often it happens that heifers are but a short time in milk when it is apparent that they must shortly swell the wastage list on account of uneconomical production. That this result is not uncommon is apparent from the statistics collected by the School of Agriculture, Cambridge, in the first year of an investigation into the causes of disposal of dairy cows in five Milk-recording Societies. It is significant that premier places as causes of drafting out were taken by sterility, with 23·7 per cent. and low milk yields with 19·6 per cent. Further, of the animals eliminated from these milk-recorded herds on account of low milk yields nearly half were home-bred. If, therefore, current investigations should show the need for research regarding diseases of the dairy cow, they may also establish a claim for enlightenment on breeding in order to eliminate the home-bred poor milker. In this connection it may be of interest to relate two farmers' views on the expectation of success from home-bred heifers. In one case the verdict was that only 1 in 5 reared were satisfactory ; in the other the statement was definite that all heifers came in with a yield of 4 to 5 gallons. Leaving out the question of breed, is not this difference in experience due to the fact that in the former case a succession of young dual purpose bulls had been used and in the latter two old proven sires headed the herd ? The logical conclusion from such a contrast seems to be that the use of progeny records is fundamental in successful breeding for milk. This view is supported by historical evidence and by the continuance in certain spheres of stock breeding of the old system of hiring out sires for probationary tests. Might not this system be more extensively utilised in dairy husbandry ? With dairy cows the accurate measurement of production by milk-recording has apparently led to the acceptance of one aspect of the records as conclusive and sufficient, whereas *success depends on the fullest utilisation of the two functions of milk-recording together*. These functions are

(*a*) to show, conclusively, which cows should be kept and which should go to the butcher.

(*b*) to show, conclusively, by a comparison of the records of dams and daughters, which bulls should be kept and which should go to the butcher.

The first is easy to carry out, although costly in the continuous need for its execution. The second, owing to the difficulties involved, should be the subject of earnest and continuous endeavour by breeders and breed societies. The complete vindication of milk-recording will not be accomplished until it becomes the emulation of all to maintain *alive* an ever-increasing number of sires which have proven their worth. These sires would leave a double legacy, high producing daughters and daughters worthy of being classified as qualified bull breeders.

THE COST OF REPLACEMENT.

In replenishing the dairy herd with home-bred heifers the cost of rearing these heifers calls for consideration. Strangely enough there is very little published data on this subject. In the case best known to the writer it is apparent that a cost of £30 per head has been exceeded during the past 7 years. Such a figure seems high unless the conditions under which the rearing is done are borne in mind. In the Eastern and Home Counties grass is often precarious, especially on the lighter soils during the latter part of the grazing season; most of the calves are born in the autumn or winter when milk is expensive; the age of first calving is usually three years, and in large herds the risk of T.B. and other infectious diseases is considerable. Enquiries from other sources have brought out the following further examples. From the Agricultural Economics Research Institute, Oxford, a recent figure from *one* farm is £24 per head. On another farm the costs in specific years were £22, £27 and £33, averaging £28. Wyllie, in Bulletin VII of the South-eastern Agricultural College, found the cost to range from £21 to £42, on various farms with an average nett cost of £30 13*s*. for 193 heifers.

But after all, a high cost of rearing may not be serious, provided every possible economy under each set of circumstances is practised and provided the progeny become good milking cows. Unfortunately costly rearing is often associated with low milk yields, and there can be no more disastrous combination. As a consequence, breeding is discouraged even on milk-recorded farms where the greatest success might be expected. A reduction in the supply of home-bred heifers increases the difficulty in eliminating abortion, as little progress in this respect is possible until the herd becomes entirely self-supporting. A self-supporting herd may be the ideal, but such an achievement depends (*a*) on the rate of replacement of cows, (*b*) on the extent of the losses and disappointment in rearing heifers, and (*c*) on the actual cost and the ultimate value, as milk producers, of the home-bred heifers. On the subject of cow wastage, data from a very large number of farms is now being collected, but similar data is required for heifers up to the age of calving. Equally acute is the need for tabulating, in full detail, the successes and the failures of those who are breeding for milk. In each case the extent of the need for improvement is capable of being ascertained. By systematically recording the results being obtained under commercial conditions the facts can be revealed. When this has been done it should be possible to proceed, unhampered by conflicting opinions, to remedy such weaknesses as are no longer in dispute.

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THE SHEEP CLASSES IN THE CARCASS COMPETITION OF THE SMITHFIELD CLUB, 1895–1929.

THE Carcass Competition was first held in 1895, and, excepting the two years 1917 and 1918, it has been held every year since its inception. Carcasses have been examined at the Shows of the Smithfield Club before the introduction of this Competition. In the early years of the Club's history, the final placing of the prize-winning animals was deferred until they had been slaughtered and their carcasses examined; a person was appointed in 1804, for instance, to attend at the killing and weighing of prize stock and to report the results to the Club. It was not, however, until the emergence of the Carcass Competition that any organised and continued attempt was made in this country at holding a competition for carcasses of various classes of cattle, sheep and pigs. The live weight of each exhibit for this competition is taken before it is removed to the slaughter-house, the animals are slaughtered and dressed under supervision, and weights of carcass, skin, offal, etc., are recorded. In the earlier years of the competition the animals were supposed to receive no food from the time they entered the yard on Saturday until they were slaughtered on the Monday night. In more recent years, the exhibits are given a little food during

Sunday, and often none during Monday, though this is not necessarily the case. The judges, one from London and one from the country, are selected every year and the same judge is never appointed two years in succession. Hammond [1] has dealt with the data resulting from these competitions up to 1913 from the point of view of growth and development. No age records have been kept in the sheep classes since 1912.

This investigation is confined to certain general tendencies such as success of certain breeds, changes in weights of exhibits and of prize-winning animals, etc., which have taken place during the period under consideration so as to indicate the general trends and direction of the changes taking place in lamb and mutton production.

JUDGING.

It is interesting to note the difficulty of selecting, from a number of live sheep, the animal with the best carcass. In this competition the same judges judged the animals alive on the Monday, and then dead on the Wednesday, from 1894 to 1914 (both inclusive), so that it is possible to gauge this difficulty. The "live judgments" were given as a matter of interest only, the prizes in this competition being awarded solely on the carcass judging. During these years 88 classes of sheep were judged before and after slaughter; the animal adjudged best when alive gave the first prize carcass in only 18 of these 88 classes. Again, in the case of the Championship Prize given to the best carcass in all the sheep classes, the champion carcass was not put first when alive even in its own class on thirteen out of the seventeen occasions. On eleven out of the seventeen occasions, the sheep with the Champion carcass was not given any one of the first three awards in its own particular class when judged alive. This difficulty, which even expert judges have in detecting the sheep which will give the best carcass, seems a matter of great importance and one worthy of investigation and research. It is possible that in the adjudication of live animals, the Judges are influenced mainly by considerations of general conformation, while as carcasses many of the animals will be too fat.

CLASSES.

In 1895 there were only two classes for sheep in this competition; one for the Longwoolled wether sheep not exceeding 24 months old, and the other for Shortwoolled wether sheep of the same age. In 1896 three, and in 1898 four classes were created, there being then a class for wether lambs and for wethers between 12 and 24 months of both Longwoolled and Shortwoolled breeds. No change was made in this arrangement until the 1905 competition, when two additional classes were made for Crossbreds, one for lambs and the other for sheep. The classes have remained substantially the same to the present day, small modifications only having been made in the interval. In the 1916 competition, however, the Cheviots and Welsh Mountain sheep were taken from the Longwoolled and put into the Shortwoolled classes. The former have remained with the Shortwools, whereas the latter were put back with the "Longwoolled or Mountain Breed" in the 1920 Show. It is considered by many authorities that pure-bred sheep should be classified for this competition into the Longwoolled, Shortwoolled and Mountain breeds. This would prevent such breeds as the Kentish and the Wensleydale having to compete with the Blackface and the Welsh, for example, or the Cheviots from having to compete with the Down breeds.

TABLE I.

Year	Total No of Exhibits	Percentage of following Breeds amongst Exhibits (excluding Crossbreds)							
		Shortwoolled			Cheviot †	Longwoolled			Other Breeds
		South-down	Suffolk	Hamps. Down		Black face	Welsh	Kentish	
1905	43	20·9	44·2	20·9	6·9	6·9	—	—	—
1906	43	14·0	37·2	14·0	16·3	6·9	2·3	—	9·3
1907	48	14·6	48·0	8·3	12·6	4·6	6·3	—	5·6
1908	45	11·1	26·6	11·1	24·4	4·4	2·2	—	20·2
1909	51	17·6	27·4	9·9	21·6	2·0	3·9	—	17·6
1910	51	21·6	25·5	7·8	25·5	3·9	2·0	—	13·7
1911	56	26·8	25·0	7·2	23·1	3·6	5·4	—	8·9
1912	56	12·5	26·8	10·7	35·8	3·6	7·2		3·4
1913	61	16·4	24·6	6·5	39·3	3·2	4·9	—	5·1
1914	54	11·1	33·3	—	40·7	1·8	7·4	—	5·7
1915	48	16·6	29·2	8·4	39·6	2·1	4·2	—	—
1916	54	20·4	14·8	7·4	33·3	20·4	2·0*	—	1·7
1919	49	18·3	20·4	8·1	24·3	18·3	4·0*	—	6·6
1920	76	19·7	7·9	11·8	26·3	23·6	2·6	—	8·1
1921	74	16·2	9·5	6·7	23·0	28·4	4·0	2·7	9·5
1922	70	24·3	17·1	5·7	17·1	22·8	1·4	4·3	7·3
1923	71	21·1	14·1	11·2	14·1	20·0	4·2	5·6	9·7
1924	68	—	—	—	11·8	20·6	1·5	5·9	—
1925	60	20·0	16·6	11·6	15·0	25·0	3·3	1·6	6·9
1926	71	23·9	9·9	7·0	14·1	18·3	2·8	1·4	22·6
1927	71	36·6	8·4	4·2	12·6	12·6	12·6	2·8	11·0
1928	62	35·5	9·6	3·2	4·8	11·3	11·3	1·6	22·7
1929	67	34·3	3·0	4·5	5·9	15·0	13·4	4·5	19·4

* Welsh Mountain were put in Shortwoolled Class in 1916 and 1919 Shows.

† Cheviots were in Longwoolled classes up to and including 1915, but since then have competed with the Shortwools.

BREEDS.

Table I on page 75 shows the total number of exhibits, excluding crossbreds, in this competition each year since 1905, the year when pure breeds and crossbreds first competed in separate classes. The number of exhibits increased after the war and has remained at a high level ever since, varying in this period between 60 and 76 each year.

This table also shows the proportion of entries from the most important breeds entering for this competition. The Southdowns have been shown in greater numbers, taking the whole period, than any other breed, although they are closely followed by the Suffolks. Until the 1916 competition, when the Cheviots were taken out of the Longwoolled classes, this breed was represented in greater numbers than any other breed, Longwoolled or Shortwoolled. The Cheviots dominated the situation in the former class, while the Suffolks were almost equally successful in the latter. Table II shows the breed of the sheep winning the first prize during the period under review.

When with the Longwools, Cheviots were responsible for 68 per cent. of the Longwool exhibits, captured 90 per cent. of the first prizes, and 87 per cent. of the first three prizes. During the whole of this period the Blackface and the Welsh Mountain together contributed only 20 per cent. to the exhibits in their classes, and captured only two first prizes. From the 1916 Show, when the Cheviots were classed as Shortwoolled, the numbers exhibited of this breed have gradually fallen, their number in the 1928 and 1929 Shows being only about one-fifth of those in the 1914 and 1915 Shows. The Cheviot successes from 1925 to 1929 have been limited to two third prizes. After the transfer of the Cheviots from the Longwoolled Classes, the number of Blackface exhibits showed a rapid increase, and from 1916 to 1922 (both inclusive) this breed captured all the first three prizes in both the lamb and sheep classes. Since 1923 the Blackface exhibits have fallen off, a series of Welsh Mountain successes in the lamb class commencing at this time; in the class for wether sheep, however, the Blackfaces have continued to gain most of the awards, losing only one first prize in the twelve years ending in 1929. Though Welsh Mountain sheep were not regularly successful until the 1924 competition, a wether of this breed was awarded the Championship for all the sheep carcass classes in 1911. From 1924 to 1929 (both inclusive) Welsh Mountain lambs have gained first prize every year, and, in 1929, a lamb of this breed was, in addition, Reserve for the Challenge Cup presented by the Butchers' Company of London to the exhibitor of the best carcass in all the sheep classes. The Blackface and the Welsh Mountain

TABLE II.

Year	Live Weights and Breeds of First Prize Winners					
	Longwoolled		Shortwoolled		Crossbred	
	Lambs	Sheep	Lambs	Sheep	Lambs	Sheep
	lb.	lb.	lb.	lb.	lb.	lb.
1898	120 Blackface	184 Crossbred	164 Suffolk	219 Hamps. Down	—	—
1899	116 ,,	158 Blackface	148 Hamps. Down	198 ,,	-	—
1900	141 Crossbred	165 ,,	120 Southdown	160 Norfolk	—	- -
1901	138 Cheviot	197 Crossbred	137 Suffolk	149 Suffolk	--	—
1902	117 Crossbred	143 Cheviot	163 ,,	202 Crossbred		—
1903	125 ,,	191 Crossbred	164 ,,	180 Suffolk	-	—
1904	122 ,,	120 ,,	167 ,,	152 ,,		
1905	96 Blackface	119 Cheviot	127 ,,	142 Southdown	122	178
1906	109 Cheviot	114 ,,	135 ,,	143 ,,	114	158
1907	No award	136 ,,	147 ,,	208 Suffolk	111	143
1908	126 Cheviot	116 ,,	164 ,,	135 Southdown	114	140
1909	102 ,,	128 ,,	143 ,,	217 Suffolk	110	141
1910	124 ,,	122 ,,	111 Southdown	168 Hamps. Down	105	140
1911	129 ,,	129 Welsh	131 Suffolk	122 Southdown	109	142
1912	111 ,,	136 Cheviot	143 ,,	165 Suffolk	135	170
1913	110 ,,	145 ,,	92 Southdown	172 ,,	127	167
1914	105 ,,	152 ,,	126 Suffolk	185 ,,	122	169
1915	123 ,,	118 ,,	119 Southdown	154 ,,	141	172
1916	91 Blackface	119 Blackface	138 Cheviot	124 Southdown	112	150
1919	98 ,,	100 ,,	128 Southdown	122 Cheviot	105	126
1920	102 ,,	137 ,,	98 ,,	152 Southdown	113	156
1921	109 ,,	134 ,,	109 ,,	123 Cheviot	130	146
1922	90 ,,	122 ,,	128 Suffolk	125 ,,	96	120
1923	99 ,,	122 ,,	96 Southdown	119 Southdown	120	120
1924	90 Welsh	100 ,,	96 ,,	125 ,,	106	148
1925	90 ,,	113 ,,	104 ,,	95 ,,	120	111
1926	98 ,,	92 ,,	101 ,,	112 ,,	98	135
1927	91 ,,	112 Black Welsh	102 ,,	127 ,,	110	134
1928	94 ,,	125 Blackface	105 ,,	118 ,,	94	134
1929	91 ,,	141 ,,	100 ,,	120 ,,	88	150

dominate the situation in the class for Pure Longwoolled or Mountain Breeds. In the Shortwoolled Class the Southdowns have captured 13 out of 23 first prizes from 1905 to 1929, Suffolks gaining 6. In the early part of this period the Suffolks were both more numerous and more successful than the Southdowns, but in the post-war period the latter have been singularly successful. Reference to Table II will show that the Southdowns have gained all the first prizes in both lamb and wether classes in the seven years ending 1929; five Championships were gained in the same period.

The Suffolks have held next position to the Southdowns in their class, but, unlike the latter, scored most of their successes in the early part of the period. The number of Suffolk exhibits has fallen considerably in recent years; in 1929, for example, 3 per cent. of the total pure-bred carcass exhibits were of this breed, against 34 per cent. of Southdowns. Most of the Suffolk exhibits in the post-war period have been in the lamb class, there being practically no entries from this breed in the class for older wethers; the Southdown, on the other hand, have kept up numerous entries in the older wether class, as well as in the lamb class. In the Live Classes, the wether classes have been abolished in recent years for many Down breeds, as they are not a commercial proposition, and must become too large for present-day requirements. Possibly it will be found that the Carcass Classes for shortwoolled wethers will also shortly have to disappear, or be limited in numbers to leave room for more lambs.

Hampshire Downs have never been shown in large numbers, but there has been no year without an exhibit of this breed. The only first prizes awarded to this breed were three in the early years of this competition and one in 1910.

Kentish or Romney Marsh exhibits were very few and infrequent until the 1921 competition; from that year there have been from 1 to 4 exhibits of this breed every year. No first prize has been awarded to an exhibit of this breed, but several 2nd and 3rd prizes have been gained in the lamb class; no prize has been gained in the class for wethers between 12 and 24 months old.

Other breeds exhibited at various times have been Cotswold, Swaledale, Lincoln, Leicester, Kerry Hill (Wales), Black Welsh Mountain, Ryeland, etc.

Separate classes were instituted for crossbreds in the 1905 competition, and the quality of the exhibits has been of a high standard throughout the period. In the 1928 and 1929 competitions, the Champion carcasses were from the crossbred classes. A great variety of crosses have been exhibited, there being for instance 36 different crosses exhibited in the lamb class alone since 1919. Taking the whole period of the competition, the most popular and successful cross in both the age classes has been that from a Suffolk ram out of a Cheviot ewe, this cross capturing 9 first prizes in the lamb class and 10 in the yearling class in the 23 competitions. The cross from a Southdown ram and a Cheviot ewe has also been shown fairly consistently and with some success. Taking the first three awards in both the lamb and the yearling classes, 80 per cent. of the animals gaining these were sired either by a Suffolk or a Southdown. The dams of most of the prize-winners were Cheviots, the exhibits from Cheviots being more numerous than the crosses from the dams of all other breeds put together. In the last five competitions, for example, all the winning crossbred lambs were out of Cheviot ewes, and two of the winning crossbred yearling wethers were also out of Cheviot ewes.

In a consideration of the success of certain breeds or crosses, it should be borne in mind that the enthusiasm, capacity and resources of the breeders are important factors. The disappearance of a breed from this competition may be due to the unsuitability of its carcasses, but it may also be due in part to lack of support from the breeders.

WEIGHT OF EXHIBITS.

Hammond [1] gave the average live and carcass weights of sheep exhibited in this competition up to 1913, classifying the exhibits according to age and breed. In Table III the weights are shown for sheep exhibited from 1919 to 1929 (both inclusive).

TABLE III.

AVERAGE LIVE AND CARCASS WEIGHTS OF SHEEP EXHIBITED 1919–1929.

Breed	Under 12 months old			Over 12 months old		
	No. of Sheep	Live Weight	Carcass Weight	No. of Sheep	Live Weight	Carcass Weight
Shropshire	4	109·0	60·7	2	196·2	119·0
Suffolk	75	144·4	82·6	8	184·4	111·6
Kerry Hill (Wales) . .	13	114·5	62·8	4	162·0	97·5
Hampshire Down . .	49	125·8	71·9	12	148·0	90·8
Kentish	12	117·0	59·7	9	133·4	82·2
Cheviot	39	103·1	57·1	75	130·5	74·0
Southdown	108	101·7	57·3	78	125·5	73·6
Blackface	80	95·3	49·2	64	120·7	65·6
Welsh	30	77·7	41·9	13	114·7	65·5
Leicester	4	135·5	72·5	—	—	—

In the above Table the breeds are arranged in order of the average weight of wethers over 12 months old. The weights under 12 months old cannot be taken as a guide to development at a certain age since the ages of the exhibits are not known. In the case of exhibits over 12 months old, the weights are smaller in the case of every breed than those given by Hammond for the period up to 1913. The smallest reduction is in the case of the Suffolks, the average being only 1·1 lb. less than that of the previous period. Taking the other five breeds prominent in this competition, the reduction in lb. in the live weight of the exhibits is as follows: Southdown 11·6, Hampshire Down 53·2, Cheviot 17·2, Blackface 43·0, Welsh Mountain 5·2. It has been observed [3] that the general trend in live weight of both Show wethers and lambs and of Market sheep and lambs in the U.S.A. is downwards. The weights given in Table III cannot be taken as representative of those of the breed as a whole, nor even of those exhibited in the Smithfield Show. Long [2] for instance and Hammond [1] have pointed out the disparity between the weights of sheep exhibited in the Carcass Competition and those in the live classes at the Smithfield. Hammond gave as one probable explanation the opinion that sheep entered for the Live Classes are too fat to show a good carcass, and so are not entered for the carcass competition. In Table IV the average live weight of sheep between 12–24 months old exhibited at and Live and at the Carcass classes of the Smithfield Show is given for the period 1919–1929 for the six breeds most numerously represented in the Carcass Competition.

TABLE IV.

COMPARISON OF LIVE WEIGHTS IN LB. OF SHEEP EXHIBITED IN THE LIVE AND CARCASS CLASSES 1919–1929.

Breed	Live Classes	Carcass Classes	Carcass Class Live Weights as percentage of Live Class Weights
Suffolk	252	184	73
Hampshire Down	250	148	59
Southdown	170	126	74
Cheviot	224	130	58
Blackface	183	121	66
Welsh	136	115	84

Thus there is a considerable difference between the weights of sheep exhibited in the two sections of the show; in the case of Cheviot, Blackface and Hampshire Down the difference is greater in the above period than in the period up to 1913. If the animals entered for the carcass competition approximate most closely to the type demanded by the butcher, renewed criticism can be levelled against those entered in the live classes.

WEIGHT OF FIRST PRIZE EXHIBITS.

The popularity of the small joint in recent years adds interest to the weights of exhibits winning first prizes during the period of the competition; these are given in Table II. Fig. 1 shows graphically the variation in the live weights of the first prize exhibits in the shortwoolled classes (Carcass Competition).

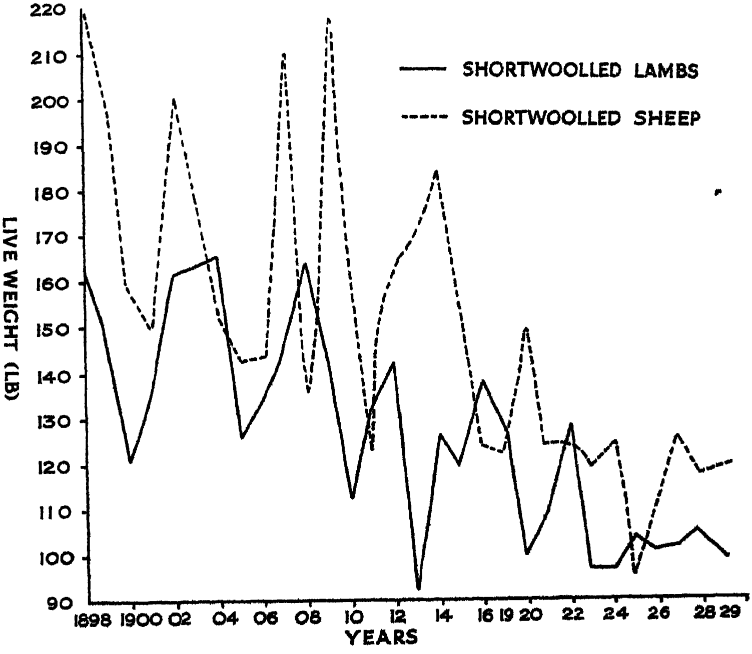

Fig I. LIVE WEIGHT OF FIRST PRIZE WINNERS.

It is obvious that, despite great fluctuations in the weights from year to year, there has been a substantial decrease on the average in the weights of first prize exhibits during the period of the competition. That is, the judges are favouring a considerably smaller carcass at the present time. The fluctuations have been considerably smaller in recent years in all classes, the first prize exhibits in the older wether classes varying between 152 and 92 lb. in the last 10 years, whereas they varied between 219 and 114 lb. in the 10 years commencing in 1898. A comparison of the average live weight of first prize-winners in the first, middle and the last ten years of the competition (starting from 1898) as shown below, emphasises the change in the weight of carcass in favour with the judges.

Table V.

	Ten Years 1898–1907	Ten Years 1908–1919*	Ten Years 1920–1929	Percentage Decrease between First and Last Period
Average Weight of First Prize—				
Longwool Lamb	120	112	95	21
„ Sheep	153	126	121	21
Shortwool Lamb	147	130	104	30
„ Sheep	175	156	122	30
Crossbred Lamb	—	118	107	—
„ Sheep	—	152	135	—

* No show held in 1917 and 1918

Thus there is an average live weight decrease of 21 per cent. in the longwoolled and 30 per cent. in the shortwoolled first prize animals in the last 10 years as compared with the first 10 years. It is interesting to observe that the extent of the decrease has been as considerable in the lambs as in the older wethers.

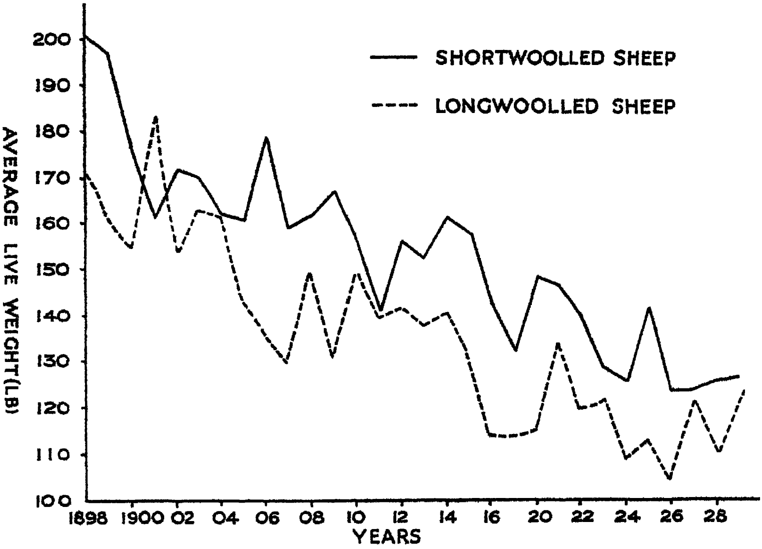

Fig II AVERAGE LIVE WEIGHT OF EXHIBITS.

Average Weights of Exhibits.

The decrease in the weights of first prize winners has been accompanied by a decrease in the average weight of all exhibits in each class during the period of the competition, though there is no evidence of a small prize-winning carcass in a particular year causing a reduction in the following year in the average weight of the exhibits in that particular class. Table VI shows the average live weight of all exhibits in each class every year, and Fig. 2 shows graphically the variation in the case of the longwoolled and shortwoolled yearlings during the period.

TABLE VI.

Year	Average Live Weight of all Exhibits in each Carcass Class					
	Longwoolled		Shortwoolled		Crossbred	
	Lambs	Sheep	Lambs	Sheep	Lambs	Sheep
1898	136	172	160	202	—	—
1899	118	162	155	198	—	—
1900	118	156	141	177	—	—
1901	122	184	141	162	—	—
1902	126	154	156	173	—	—
1903	126	164	146	171	—	—
1904	120	162	138	163	—	—
1905	110	144	142	162	132	196
1906	111	135	130	180	119	155
1907	112	130	134	160	115	155
1908	117	150	149	163	125	157
1909	118	131	133	168	114	140
1910	115	150	129	157	108	166
1911	115	140	122	141	111	151
1912	109	142	137	157	125	144
1913	110	139	133	153	125	170
1914	118	141	140	162	127	153
1915	98	132	141	158	114	155
1916	85	114	117	133	111	147
1919	82	113	120	132	109	134
1920	91	115	124	149	119	149
1921	105	134	140	147	119	163
1922	97	120	124	140	114	139
1923	98	122	121	129	109	137
1924	89	109	118	126	98	141
1925	91	113	120	142	111	139
1926	87	104	113	124	111	133
1927	87	122	108	124	109	131
1928	101	110	116	126	114	143
1929	94	122	98	127	109	139

The downward tendency is pronounced in all classes. It is interesting to observe that, in the first three years of this period, there was as great a reduction in weight, whether of all exhibits in a class or of first-prize winners, as during any three years in the period. Another point of interest is the reduction in the weights of the exhibits during the war period, presumably owing partly to the growing scarcity and expense of feeding stuffs, and partly to less skill and care in feeding. If the figures are examined separately for each of the six most important breeds in this competition, as in Table VII, it will be observed that the Southdowns, Suffolks and Hampshire Downs showed great decrease in weight from 1895 to 1900, the first few years of the competition, a fairly level period from then until the end of the war, a sharp rise after the war, followed by another sharp decrease since 1922.

TABLE VII.

Year	Average Weight of Pure Bred Yearling Wether Sheep (in lb)					
	South-down	Suffolk	Hampshire Down	Cheviot	Welsh	Blackface
1895	215	278	306	164	No exhibits	192
1896	No class	No class	No class	188	,,	159
1897	,,	,,	,,	172	,,	157
1898	166	247	214	164	,,	161
1899	151	221	201	173	,,	158
1900	109	No exhibits	199	147	,,	156
1901	137	149	183	140	,,	182
1902	142	176	184	177	95	No exhibits
1903	136	175	226	162	88	147
1904	144	174	176	145	96	159
1905	148	167	180	134	No exhibits	154
1906	145	193	161	127	122	166
1907	137	162	165	129	117	171
1908	139	157	173	129	102	147
1909	136	191	168	124	134	88
1910	125	182	168	145	116	192
1911	126	183	168	141	113	192
1912	128	178	145	146	121	186
1913	121	181	149	135	135	211
1914	131	188	No exhibits	134	138	221
1915	126	177	,,	132	128	No exhibits
1916	129	178	,,	126	No exhibits	114
1919	123	189	187	120	110	91
1920	149	No exhibits	173	141	No exhibits	115
1921	133	,,	202	137	112	131
1922	139	220	No exhibits	128	136	120
1923	117	200	140	117	114	114
1924	119	—	162	113	—	108
1925	102	186	208	144	—	118
1926	114	161	No exhibits	130	—	117
1927	115	No exhibits	—	137	101	122
1928	124	144	—	137	114	105
1929	129	—	120	120	118	126

In the case of the Cheviots, the exhibits decreased in weight taking the period as a whole from 1895 to about 1906, though there was not the same initial heavy decrease as in the case of the three breeds mentioned above. In the four years beginning in 1904, however, the average weight of the exhibits of this breed fell sharply and consistently to a level about which it has oscillated ever since. Thus in 1906, 1907, 1908 and 1909 the Cheviot wether sheep exhibits averaged 127, 129, 129 and 124 lb. against 130, 137, 137 and 120 respectively during the last four years. Taking the Blackface exhibits, the weights of the exhibits in the post-war period have been at a distinctly lower level than at any other period. In the case of Welsh Mountain exhibits the numbers are too small during most of the period to draw definite conclusion as to tendencies. If, however, the average weights of wether sheep of this breed are plotted for each year it will be observed that the weight tends to increase from 1902 to 1909, unlike the other breeds. After 1909 the weights fluctuate considerably, although they do not drop in any year as low as they were before 1905.

PROPORTION OF CARCASS WEIGHT TO LIVE WEIGHT.

Table VIII shows the percentage carcass weight for the six breeds from 1919–1929 for both the lamb and sheep classes.

TABLE VIII.

PROPORTION OF CARCASS TO LIVE WEIGHT, 1919–29
(both inclusive, 1925* excluded).

	Lambs.		Yearlings.		Proportion of Skin as Percentage Live Weight.
	No. of Exhibits.	Percentage Carcass.	No. of Exhibits.	Percentage Carcass.	
Hampshire Down	41	56·6	8	60·0	7·4
Southdown	99	55·9	75	58·8	8·3
Suffolk	67	56·9	6	60·6	7·3
Cheviot	37	53·3	68	56·8	9·7
Blackface	71	50·9	38	53·6	11·9
Welsh Mountain †	28	53·2	13	57·1	8·6

For calculation of skin percentage, 1925 and 1927 years omitted.

* Figures for 1925 excluded because the proportion of carcass was unduly high that year for all breeds.

† Excluding 1920, 1922, 1924, and 1926 because either the lamb or yearling class was not represented in these years in the case of this breed.

Thus the yearlings have given an average of 3·3 per cent. more carcass than the lambs; Hammond [1] found a difference of 3·6 per cent., taking the average of 23 breeds. The same worker found that there was a fall in the proportion of carcass during the period 1896–1913. This fall has been checked in the period 1919–1929, and, although the proportion of carcass in the post-war period is still well below that in the earlier years of the Carcass Competition, it shows a slight gain in the case of yearling wethers of the four breeds as compared with the figures for the period 1907–1913. Table IX shows the carcass proportion for the various breeds, the figures for the periods up to 1913 being taken from the work quoted above.

TABLE IX.

CHANGES IN THE PROPORTION OF CARCASS (as percentage of live weight) from 1893–1929 (Yearlings).

Breed	Period			
	1893–1899	1900–1906	1907–1913	1919–1929
Cheviot	66·7	65·6	61·2	62·4
Hampshire	67·0	67·7	62·4	64·6
Suffolk	68·8	64·7	63·0	65·0
Southdown	69·1	66·3	62·6	63·9

In the calculation of the post-war figures, an allowance has been added to the weight of carcass given in the records at the rate of 6 lb. for carcasses under 64 lb., 7 lb. for carcasses from 64–80 lb., and 8 lb. for those above 80 lb.; this is necessary, since, after the 1911 competition, these deductions were made to allow for weight of head and feet.

In the period 1919–1929 the highest proportion of carcass in the classes for yearling wethers has been given by the Suffolk, closely followed by the Hampshire and Southdown. The Cheviots and Welsh Mountain are very similar, the former being 62·4 per cent. and the latter 63·0 per cent. The Blackface is the lowest with 59·3 per cent., but the proportion of skin, owing to the heavy fleece, is distinctly higher than that of the other five breeds.

I wish to express thanks to Mr. John Hammond and Prof. R. G. White for helpful suggestions given after reading through the MS.; also to Mr. Leonard Bull, Secretary of the Smithfield Club, for forwarding the necessary records and for information given on various matters relating to the competition.

CONCLUSIONS.

1. The selection, from a number of live sheep, of the one with the best carcass has proved a matter of difficulty even to experts.

2. The Suffolk was the most numerously represented breed in this competition in the earlier years, but in recent years more than a third of the total pure-bred entries are Southdown.

3. In the longwoolled classes, the prizes in recent years have been mostly captured by the Blackface and Welsh Mountain sheep. In the shortwoolled classes the honours have gone mostly to the Southdowns.

4. The weights of first prize sheep and lamb carcasses are considerably lower in recent years than in the period up to 1920. The average weights of all exhibits in each class and of the different breeds taken separately are also much reduced.

5. The weight of exhibits in the Carcass Competition are on a considerably lower level than those entered in the "Live" Classes of the Smithfield Show.

6. The fall in the proportion of carcass to live weight noted by Hammond has been checked.

References.

1. Hammond: *Journ. Agri. Sc.* (1921), 11, 367–407.
2. Long: *Journ. Bd. Agric.* (1914), 21, 1–12.
3. Wentworth: *Cattle Breeding, Edinburgh,* 1925, p. 226.

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REPORT OF THE RESEARCH COMMITTEE.

The policy of the Society in assisting agricultural research by means of financial grants administered by the Research Committee has been actively prosecuted during the year 1930, and much useful work begun in previous years has been completed or continued, whilst new investigations have been undertaken. Notwithstanding that considerable funds are now available for the investigation of the farmer's problems from public sources and endowments, there is still scope for assistance in this important work, and the Research Committee are satisfied that the grant placed at its disposal by the Society serves a most useful purpose. In the following report, they have summarised the more important features of the work of the year.

I.—WORK COMPLETED AND IN PROGRESS.

Lucerne Inoculation.

The work carried out at Rothamsted Experimental Station on the inoculation of lucerne seed has had results in practice which may fairly be described as remarkable. The sales of lucerne cultures have steadily increased, and during the year sufficient for the inoculation of between 4,000 and 4,500 acres has been issued by Messrs. Allen & Hanburys. It is interesting to note that the acreage of the crop increased during the year by 4,017, and this in spite of the general fall in the area of arable land. There is little doubt that the publicity given to lucerne through these experiments and the success that can now be obtained in securing the stand when the seed is inoculated are causing farmers to make much fuller use of this valuable crop than they have done in recent years.

Work at Rothamsted is continuing in two directions. Experiments are in hand to see how far it would be possible for seedsmen to inoculate the lucerne seed before sending it out. This would be a great convenience to farmers and it need be no more expensive than the present cost per acre.

Investigation is continuing to see whether inoculation or some similar process will help in overcoming clover sickness, and in getting a quicker development of wild white and other clovers in a seeds mixture. So far these are in the laboratory stages and there remains a good deal of work to be done before any scheme of field trial can be drawn up.

WOBURN EXPERIMENTAL STATION.

The task of collecting and checking the data accumulated at Woburn had been completed during the year.

Certain general results of considerable importance are emerging from the study of the Permanent Wheat and Barley plots and are being fully elaborated for the final Report.

The yields fall into two periods :—

(1) High farming up to 1906.
(2) Low farming after 1906.

In the second period the yields fell considerably, much more than corresponds with the manuring. It appears, therefore, that with cheap fertilisers there is no gain in trying to save expenditure on manuring ; what is gained in this way may be more than lost in crops. The best hope is to change the system.

A number of comparisons can be made between farmyard manure and artificial manures.

(1) On yield. 1 lb. of nitrogen in artificials has been equal to about 4 lb. nitrogen in farmyard manure, as measured by crop production. This takes into account all of the physical effects of farmyard manure on the soil. The experiments do not show how the two groups of fertilisers would compare on roots or potatoes. Nor do they show how smaller dressings of farmyard manure would behave : there is the possibility that the nitrogen in them would be relatively more efficient.

The farmyard manure has but little residual value, little more than shown by potash and phosphate : in the year following its application the nitrogen apparently did no more than would be done by ½ cwt. sulphate of ammonia per acre.

(2) Although, however, the farmyard manure has not been equal in effectiveness to artificials, it has shown certain differences in action which require further examination.

(*a*) The variation in yield from year to year is less from farmyard manure than from artificials.

(*b*) The quality of the barley as measured by the Nitrogen per cent. is higher on farmyard manure than on artificials.

None of the samples of barley, however, are of high quality, percentage of nitrogen usually running about 1·8, whereas in good malting barley it should be more like 1·5. Farmyard manure is thus able to give a high yield of barley without detriment to quality.

Rape cake has proved unexpectedly good at Woburn, 1 lb. of nitrogen in nitrate of soda being equal to about 1½ lb. nitrogen in rape cake.

Effectiveness of Artificial Nitrogenous Fertilisers.

The figures are of the same order as at Rothamsted and elsewhere; sulphate of ammonia has given increases at the rate of 6½ bushels of barley and 6 bushels of wheat per cwt. of sulphate of ammonia; the average figures elsewhere being 6·5 and 5. For nitrate of soda the figures are 8½ bushels of barley and 6½ bushels of wheat per cwt. of sulphate of ammonia.

A good deal of information is available about the loss of added lime from the soil. This is found to depend on the exchangeable calcium present in the soil; practically all the added lime can be washed out and lost when the exchangeable calcium is high, but not when the exchangeable calcium is low; in that case some is fixed in the soil and not leached out: it is a permanent improvement. This factor may need to be taken into account in assessing the compensation for added lime.

Residual Effects of Sulphate of Ammonia and Nitrate of Soda.

As judged by the alternating plots 8*a* and *b*, 9*a* and *b*, sulphate of ammonia shows a residual effect over the first 30 years for wheat, and over the first 20 years for barley: the effect apparently lasts one year. Plot 8 suffers from the effect of acidity during the latter period of the experiments. When plot 8 is limed the residual effect of sulphate of ammonia is continued over the latter period. Nitrate of soda shows a small residual effect over the whole period for wheat, and a greater residual effect for barley.

There seems a considerable measure of agreement between the actual yields at Woburn and those at Rothamsted for similar manurial treatments, after the first few years are over. This suggests that, so long as the soil is neutral and drained, weather conditions are more important than soil conditions in determining the effectiveness of fertilisers, especially of nitrogenous fertilisers. Detailed comparisons are now being made with the Rothamsted data to compare the action of rainfall, inch by inch and month by month, on the effectiveness of the various fertiliser systems tested.

Effect of Fallow.

The fallowing of the Stackyard Field at the end of the 50-year period had a remarkable effect in increasing the yield of barley. The plot which had had no manure for more than 50 years gave over 20 bushels of grain, while those which had received nitrate of soda without lime gave 30 to 36 bushels : the plot that had farmyard manure gave just under 35 bushels. The effect cannot at present be completely explained, it is being further studied. The second crop after the fallow shows nothing like such striking results : the chief effect of the fallow, whatever it is, wears off in one season.

MASTITIS IN COWS.

Research on bovine mastitis at the Institute of Animal Pathology, Royal Veterinary College, London, has been continued during the year.

Bacteriology of Mastitis.

As reported previously to the Research Committee of the Society, an article dealing with the bacteriology of 113 unselected cases of bovine mastitis was published during 1929. This work showed in agreement with other observers that the majority of cases are caused by streptococci, and it was also found that more than one kind of streptococcus could be distinguished. A more intensive study of certain varieties of these streptococci is still being pursued, with special reference to their relationship to similar organisms which can be isolated from disease in human beings. The possibility of streptococci from human sources producing mastitis in cows through the medium of the milker is also a problem which requires more investigation.

The cow's udder contains several different kinds of bacteria. Streptococci can frequently be cultivated from the milk of apparently normal udders and it is important to know in any given case whether the variety isolated is to be regarded as a harmless inhabitant or whether it is capable of producing disease. Mainly with this object in view, a large number of streptococcus cultures are being obtained from milk and an effort is being made to classify the different varieties encountered. It will then be possible to consider the results in relation to the past and future history of the animal.

Diagnosis.

It is now well recognised that many of the more chronic cases of streptococcus mastitis are occult in nature and cannot be readily diagnosed by manipulating the udder or inspecting the milk. Laboratory methods of diagnosis have therefore to be regarded as essential if all the infected cows in a herd are to be detected. During the past two years certain of the methods which have been proposed for this purpose have been submitted to a thorough and extensive examination in the Institute, and the results have been published in two articles. One main conclusion from this work is that the only really satisfactory method of diagnosis is one involving cultivation of the causal streptococcus. More simple methods which have been proposed, such as the brom cresol purple test, and observation of the amount and characters of the sediment obtained by centrifuging a fixed volume of milk, are of some value when applied to milk samples from individual quarters of the udder. At a single examination, however, neither method picks out with certainty more than about two-thirds of the affected animals.

Advantages of the cultural test are, firstly, that it can be applied with satisfactory results to a mixed sample of milk from the four quarters, thereby reducing considerably the amount of labour and, secondly, that at single examination it is capable of picking out the great majority of the affected animals. Even the cultural test fails in some cases, however, and efforts are now being made to devise a still more reliable and at the same time more simple cultural method of diagnosis.

Prevalence of Mastitis.

The work referred to in the last section has afforded an opportunity for enquiring into the prevalence of streptococcus mastitis in this country. Up-to-date milk samples from 1,014 cows belonging to 18 herds have been examined and 421 (41·5 per cent.) have been found to be infected in at least one quarter of the udder. The incidence of infection in the individual herds varied from 11 to 65 per cent. In a large proportion of instances the disease was occult and would not have been readily recognised by clinical examination. The figures mentioned strongly suggest that the incidence of streptococcus mastitis among cows in this country is high, and a more extensive examination would probably show this to be the case. It should be stated, however, that the figures have reference to a relatively small number of cows and that most of the herds had been selected for examination on account of udder disease. The amount of mastitis infection appears to bear no relation to the type of herd, since six of the herds were producing milk of certified standard and four others could be classed as "clean."

Control of Mastitis.

Work on the eradication of streptococcus mastitis has now been proceeding for over a year in five milking herds and has recently been extended to a large herd of 150 cows producing Grade A tuberculin-tested milk. The principle of the scheme is to pick out all cows harbouring mastitis streptococci in their udders and, acting on the assumption that infection is spread during the process of milking, to have such cows milked last as a routine. Milk samples from all cows and heifers entering the herd are examined and three-monthly tests are made of the originally healthy animals. This work must naturally continue for some time, but so far it may be said that the results are distinctly encouraging, since the majority of the originally healthy cows have remained free from the commonest form of streptococcus infection.

The building-up of uninfected groups of cows in this way makes it possible to assess the importance of other bacteria, including the less common varieties of streptococci, in producing mastitis. For example, in one such group several cases of acute mastitis due to a different variety of streptococcus were observed during the winter of 1929–30. Such instances raise the question of the origin of infections of this type and the possible influence of outside predisposing factors.

BARLEY EXPERIMENTS.

The important work in connection with barley which has been carried on at the Norfolk Agricultural Station for some time past, and which has been the subject of progress reports by the Research Committee in previous years, is now completed. An account of work undertaken with the Society's assistance, and of the results obtained, is given in two reports which will be found in another part of the *Journal*—(1) An Experiment in the Seeding of Barley; (2) A Note on Seed Drills.

The Barley Manurial Trials are being continued.

EXPERIMENTS IN CHICKEN REARING.

Experiments to test the value of various milk products in chicken-rearing were conducted at the South Eastern Agricultural College, Wye, and a full report on the work will be found in another part of the *Journal*.

II.—NEW WORK.

THE ECONOMIC USE OF SUGAR BEET TOPS.

During the year an investigation was undertaken at the Norfolk Experimental Station into the economic value of sugar beet tops on arable farms under alternative methods of disposal.

In costing over a hundred eastern counties farms, the Economics Department of the University of Cambridge has shown that in many cases a great part of the profit from sugar beet growing is obtained from the value of the tops. This is likely to become more frequent if the price of beet falls under future contracts, and the disposal of beet tops to the best practical advantage is obviously of great importance.

The problem on arable lands, however, has many ramifications, of which the following are probably the most important :—

(1) The feeding value of tops in comparison with roots,
  (*a*) to sheep ;
  (*b*) to bullocks.

(2) The manurial value of the tops,
  (*a*) when ploughed in ;
  (*b*) when fed to sheep.

(3) As a sub-division of 2(*b*), the manurial value of the tops will vary according to the time of sheeping, and although of less importance than some of the other problems the determination should be made.

(4) For comparison with the responses to beet tops as a manure, the responses to suitable artificial manuring must be measured in the same year and on the same crop.

(5) The labour cost in disposing of the tops must be determined, *e.g.* :—
  (*a*) In collecting and carting tops to bullocks.
  (*b*) In throwing out heaps or rows of tops to sheep.

(6) Subsidiary problems :—
  (*a*) Handling the tops in the field to avoid deterioration.
  (*b*) Reducing the scouring tendencies of the tops.
  (*c*) Economical methods of feeding the tops to avoid waste in the bullock yards or sheep folds.

The Station has already carried out trials on the feeding of beet tops to bullocks and the manurial value when ploughed in for barley, but since two years only have elapsed since they were started, the results cannot be conclusive. Neither can they pretend to embrace the whole aspect of beet-top disposal on arable farms. On the contrary, the results have brought to light fresh problems.

It is proposed, therefore, that the following trials should be started and continued until satisfactory conclusions are reached.

A. A Bullock-Feeding Trial recording the live weight increases of 10 bullocks fed on tops and 10 fed on roots. This would be the third repetition of this comparison at Sprowston.

B. A Sheep-Feeding Trial recording the live weight increases of 20 sheep fed on tops and hay, and 20 sheep fed on swedes and hay. The land occupied by the sheep-feeding trial would be the site of the yield trial of barley in the following year.

The only complication introduced is the manurial value of the hay, which would weight the balance in favour of the manurial value of the swedes and tops, since there would be no hay fed on the remaining plots (" Tops carted off " and " Tops ploughed in ")

C. A comparison carried through each of the crops in the rotation of the yield from beet tops respectively sheeped, carted off and ploughed in. An attempt will be made to differentiate between the value of early and late feeding. The results of 2 years' trials at Sprowston gave 2·7 and 1·9 cwt. more barley due to ploughing in as opposed to carting off. Trials with sheep have not yet been undertaken

D. The labour costs will be very carefully recorded and it will be necessary to establish a specific organisation for that purpose.

The success of the investigation depends, to a not inappreciable extent, upon a thorough study of the subsidiary problems. The reduction of scouring alone is of sufficient importance to merit detailed attention. For that purpose it is proposed to set aside a small yard of five bullocks, and a small pen of sheep, upon which observations can be made. By the various reactions of these animals, it is proposed to observe the effect of the length of wilting before feeding and the effect of varying quantities of chalk and other substances upon scouring.

Responses to artificial manuring are being constantly measured at Sprowston and no further trials need be established for that purpose.

GRASS LAND EXPERIMENTS.

A continuation of the grass-land experiments already made at Shoby, with the object of testing the residual values of feeding stuffs, has been under consideration by the Committee and a decision thereon will shortly be reached. These experiments would be made under the direction of the Leicestershire County Agricultural Organiser.

EXPERIMENTS IN HAMPSHIRE.

In view of the Society's Summer Meeting at Southampton in 1932, the Committee have under consideration the possibility of arranging for experimental work of particular interest to farmers in the South of England, to be set on foot in Hampshire.

III —AGRICULTURAL RESEARCH IN 1929.

This annual review of the research work of the year in the principal branches of agricultural science and economics, prepared under the direction of the Committee, was issued in

December. The distribution to members making application and by sales to the public amounted to about 4,400 copies.

The Committee regrets to report the resignation of Professor F. L. Engledow from the panel of contributors. Professor Engledow has supplied a valuable review of work on " Crops and Plant-breeding " since the first issue of the volume.

For the year 1930, the Committee has decided to include an additional article, under the title of "Animal Genetics," and Dr. F. A. Crew, of the Department of Animal Genetics, Edinburgh, has consented to contribute it.

IV.—MEDAL AND PRIZE FOR ORIGINAL RESEARCH.

Five essays were submitted for the Medal and Prize offered annually by the Society for original research. Sir John Russell and Mr. W. Burkitt, who kindly acted as adjudicators, reported that the general standard was high in all cases. Two essays, the one entitled " Stubble Cleaning; its Influence on Weed Seeds " submitted by W. A. Jones, the other entitled " English Wheat Varieties " submitted by P. S. Hudson, were of equal merit, and the Committee recommended that the Council should award a silver medal and prize of £10 to each.

It has been decided to repeat the offer of the Medal and Prize for competition in 1931 under the same conditions.

AN EXPERIMENT IN THE SEEDING OF BARLEY.

INTRODUCTION.

ALL cereal crops were broadcast before Jethro Tull introduced the idea of drilling corn in 1701. Tull's " drill-plough " and his system of horse-hoeing husbandry were followed, in the course of time, by the present methods of seeding corn. The evolution, however, was based upon practice. The ease and efficiency of horse hoeing and the width of row, at which horse or hand hoeing caused damage, carried more weight than theoretical matters relating to yield.

In fact, the effect on yield of different spacings of cereals has received little serious consideration until recent years. In contrast, the distance between the rows and plants of root crops has been fixed by experiment, and the extent and effect of variation in the number of plants has been fully investigated.

With the exception, however, of one or two isolated and inconclusive experiments in the row widths of wheat and such practices as the cross drilling of oats in the north, and the diagonal drilling of oats in parts of the Eastern Counties, it has been assumed that the spacing of cereals is immaterial. The widths fixed during drill manufacture have been accepted as immutable. So in the case of barley, a row width of about seven inches has been adopted. On the Continent, barley row widths are variable. The Dutch drill wider, and the Germans and Danes narrower than is the English custom, and drills are manufactured accordingly. In Denmark, they are made to drill barley as close as four inches between the rows.

When, however, Professor Engledow in 1923 carried out the first census of cereals entitled " The Census of an Acre of Corn," critical work on the subject of cereal spacing was initiated. The census method determines the variation in plant population, from point to point in any one field, and shows how and why yield, and, in some cases the quality, of the produce is affected

Since the first census of corn—in that case wheat—others on barley, mangolds and sugar beet have been reported and much further evidence on the subject of spacing, as it occurs in normally cultivated crops, has been obtained. In general the results have shown that most striking variations in numbers of plants are to be found ; in fact the plant may fluctuate between 0–40 plants per foot length of row and, in consequence, yields of corn fluctuate from foot to foot or from acre to acre in the same field.

The census method, however, is essentially a survey method, and although it points to the drill as the prime cause of the variation in plant numbers, it does not show how the theoretical lessons derived from the analysis of the crop can be put to practical benefit except by improving the drill. " It is all very well," the farmer, who has read a census of a barley field, may observe, " to tell me that my field of barley at various places is yielding between 12 and 24 cwt. to the acre ; what I want to know, is how I can seed the whole so that it yields at the maximum amount." To do so, the lesson of the census must be applied, and the great lesson of the census is that the field must be more completely and evenly filled with plants to give maximum yields.

METHOD OF TRIAL.

Pending drill improvement some means were required which would test the census results in an adequately controlled experiment. A simple method was not difficult to devise. The theoretical requirements would be met by drilling two plots of barley, at the same seed-rate per acre, the one 3½ in. and the other 7 in. between the rows, and conducting a yield trial of the two.

This experiment has been carried out with barley at the Norfolk Agricultural Station in each of the past four years. For convenience the two spacings are referred to herein as the " close " and " normal " spacings or rows respectively. The theory of the trial is quite simple; the seeds in the normal rows are drilled twice as thick as those in the close rows and are consequently not so well spaced. In the former case the distance between the seeds proved to be about 1⅓ in. on the average, but on the adjacent close rows the seeds were 2⅔ in. apart; each seed on either method had 9⅓ sq. in. of available ground area, made up in the case of seeds on the close rows, of a spacing of 3½ in. by 2⅔ in. in contrast with the normal row spacing of 7 in. by 1⅓ in. In regularity of spacing, it is obvious that the seeds in the close rows are more favourably situated, although the *average* spacing of the seeds does not reflect, with accuracy, the *actual* spacing in the rows. The seeds in the normal rows would compete with each other more quickly and effectively and, in consequence, there would be greater interference between them. On the other hand, access for light and air should not differ greatly in the two methods, although by reason of the earlier and more complete ground cover the close rows should conserve the soil moisture more completely.

To return, however, to the layout of the trials. A strip of one drill width (9 ft.) constituted a plot, five alternating plots of each spacing were drilled and were duplicated "end on," giving ten repetitions at harvest. As, however, no drill was available which would sow twice the normal number of rows, the close plots had to be drilled twice with the same drill, the second rows being drilled midway between the first. To do so no little skill in drilling was necessary, but the trials were repeated until at least five satisfactory repetitions had been put down in each year. In order to neutralise the effects of the extra tillage due to the second drilling, the normal plots were also run over a second time with the drill coulters down and the seed shut off. In every case the drill seeding rate was tested before proceeding to the plots, and the seed-rates actually sown on the plots were determined for each repetition. As had been the experience on previous occasions in another connection, it was found that the methods of controlling the seed-rate on the drill in use, were not sufficiently accurate. In the first two trials an external force feed drill was used, for which a sprocket was specially made, which was inserted when it was required to halve the per coulter seed-rate.

In 1929 and 1930 a drill provided with a special, and as it proved, a very accurate method of altering the seed-rate, was substituted, and it was found that the seed-rate setting of that drill could be moved and reset with extreme accuracy.

Each of the ten strips was harvested separately, and its gross produce weighed in the field. The produce of each spacing was then bulked, stacked and threshed separately, the yields of grain and straw being weighed.

In order to explain the results of the trial in each of the

4 years, 50 to 100 ft. lengths of row were marked out on each treatment. The number of plants on each of these lengths was counted after germination and the produce of each was harvested for subsequent plant analysis.

YIELD OF GRAIN AND STRAW.

Before considering the foot length analysis it will be best to examine the yields of grain from the strip plots in each of the 4 years.

TABLE I.

(*a*) *Yield of Grain in Bushels per Acre.*

	1927	1928	1929	1930	Mean of Four Years
3½-in. rows (close) . .	45·4	54·8	39·0	34·0	43·3
7-in. rows (normal) .	42·4	51·2	36·8	30·6	40·3
Increase (bushels) . .	3·0	3·6	2·2	3·4	3·0

(*b*) *Yield of Straw in Cwts. per Acre.*

3½-in. rows (close) .	32·1	22·5	15·5	18·7	22·2
7-in. rows (normal) . .	37·0	22·1	19·5	17·1	23·9

It will be seen that the close spacing has given consistently higher yields of grain; the average of the 4 years shows that the extra yield is exactly 3 bushels or three-quarters of a sack per acre. Considered as a percentage increase over the normal spacings, the figures for the 4 years are 6·7, 7·0, 5·8 and 11·0 per cent. respectively. In contrast there is little, if any, consistent difference between the yields of straw, although the average shows that the normal spacing yielded approximately 2 cwt. more to the acre. The figures, however, which are material are the ones showing the yield of grain.

Three bushels of barley per acre, if sold at only 24*s*. per quarter, is 9*s*. extra return and at 48*s*. per quarter, a price realised in 1930 for malting barley grown at Sprowston, it is 18*s*. per acre, which is obtained at no extra cost for seed or manure. The application of the results in practice, however, is discussed later.

THE CAUSES OF THE YIELD INCREASES.

There are several reasons why one barley plant is able to produce more grains than another. It may be growing at a more favourable situation, or be subject to greater freedom from the attacks of pests, or possibly some modification in its development may be caused by some unexpected event. In the last-named respect, it may, for instance, develop a more efficient rooting system; it may be able for some reason, to produce more tillers, and therefore, more ears; or more grains may be carried in each ear, or those grains may be heavier. To recognise those effects, the produce of each individual foot length of the 50–100 marked out was analysed and a determination made for each method of drilling, of the number of plants at germination per unit area of ground; the mortality; the number of tillers per plant; the number of plants bearing one, two, three, and four or more ears, and the weight of the ears, while in order to examine the quality, the barleys were valued by the Institute of Brewing Valuation Sub-Committee and the percentage of nitrogen and thousand corn weights were determined at the Rothamsted Experimental Station. It is proposed to examine each of these in turn.

The counts showed that the plant obtained at braiding in 2 of the 4 years was slightly higher on the close rows; in 1929 and 1930 the numbers may be regarded as the same. There was no difference in the seed-rate at any time, except in 1927, when after completing drilling it was found that the normal spacing had been drilled 0·1 bushel per acre higher.

TABLE II.

(*a*) *The Number of Plants per Foot Length of Row at Germination.*

	1927.	1928.	1929.	1930.
3½-in. rows (close) .	15·5	14·4	13·2	15·5
7-in. rows (normal) .	14·0	13·3	13·2	15·0

(*b*) *The Percentage Loss in Plant per Foot Length of Row between Germination and Harvest (the Mortality).*

3½-in. rows (close) .	2·6	7·0	16·4	27·3
7-in. rows (normal) .	5·7	9·9	18·5	31·1

While in view of the harvest counts of numbers of ears given it is possible that little significance attaches to the small variation in the plant at germination the greater number of plants at harvest, *i.e.*, the smaller mortality on the close spacing, must be seriously considered as one of the factors causing the differences in yield of grain. In each of the 4 years, there were more deaths in the normal rows and Table II shows that the mortality on those rows was almost exactly 3 per cent. greater.

It might be argued, therefore, that increased tillering would result, and that it would compensate for the greater loss on the normal rows. If so, the tillering could not be due to larger spaces left in the normal rows for although those rows suffered greater mortality, the seeds in them were still more crowded than the more closely drilled rows; in fact they were twice as thick and a 3 per cent. mortality, therefore, would not be expected to increase the relative rate of tillering to the extent that actually accrued, if at all. But it is shown in Table III giving the average number of ears per plant and the percentage of plants with one, two, and more ears, that there was in each year more tillering on the 7-in. rows. That, however, is more likely to be due to the difference in row width than to losses in the row. That tillering has been reduced by drilling the rows closer together, and with more space between the seeds in the row, is therefore worth emphasis, at this point. Moreover, since the threshings of the close plots always produced more grain than the others, it is obvious that reduced and not increased tillering is likely to prove an important yield-increasing factor. But while tillering, or rather the lack of tillering, in the 3½-in. rows, appears to be associated with the increased yield of grain, the evidence is not yet complete.

It is necessary to examine further the number of ears per plant and their average weight. This data is given in the next two tables.

TABLE III.

The Average Number of Ears per Plant.

	1927.	1928.	1929.	1930.
3½-in rows	1·59	1·59	1·60	1·75
7-in. rows	1·68	1·88	1·63	1·73

It is shown in Table III that there were more ears on the plants growing in the normal rows, and as already indicated, there were also less plants at harvest, due to more deaths during the development of the crop. Combining therefore the estimates of the numbers of plants and ears per plant at harvest, it is possible to calculate the numbers of ears per acre on each method of drilling; when this is done the numbers, based upon the average of the 4 years, are 1,561,000 and 1,516,000 respectively. The percentage increase in ears is therefore less than 1 per cent. but the increase in yield is over 7 per cent. Some other reason than the numbers of ears per acre must, therefore, be sought in explanation of the extra crop.

The next determination, the mean weight per ear, is given below together with the percentage increase in yield from the strip trials.

TABLE IV.

Mean Weight per Ear.

	1927	1928	1929	1930
3½-in. rows	0·66 gms.	0·86 gms.	0·73 gms.	0·91 gms.
7-in. rows	0·63 ,,	0·75 ,,	0·69 ,,	0·80 ,,
Increase as per cent. of ear weight of 7-in. rows	4·7	14·6	5·8	13·7
Increase in yield per cent	6·7	7·0	5·8	11·0

The mean weight of ears grown in the close rows is greater, therefore, in each year. In 1929 and 1930 by which time the method of trial was well understood, the difference in yield on the strip trials was 5·8 and 11 per cent. respectively, and the corresponding increases in mean weight of ear calculated, of course, from the foot length counts and independently of the yield trial determinations, were 5·8 and 13·7 per cent. There is very close correlation in those years, between the two determinations, as there was also in 1927 when the figures were 4·7 and 6·7 per cent. In 1928, however, the per cent. ear weight increase is 14·6 per cent. while the yield increase is only 7 per cent. but the evidence is consistent; increased yield and increased ear size are still obtained in that year.

The reason why the close rows were always associated with heavier ears of barley is disclosed by examining the next table, which shows the proportion of barley plants having one, two, or more ears. Perhaps the comparison is best made in the percentages of plants with more than two ears, when the greater tillering in each year in the normal rows is clearly shown. On the other hand, the close rows produced plants with the greater percentage of one- and two-ear plants.

TABLE V.

(a) The Percentage of Plants with One, Two, and More than Two Ears.

	Plants with One and Two Ears		Plants with More than Two Ears	
	3½-in. Rows	7-in. Rows	3½-in. Rows	7-in. Rows
	Per cent.	Per cent.	Per cent.	Per cent
1927	90·6	84·1	9·4	15·9
1928	87·1	77·4	12·9	22·6
1929	91·7	88·8	8·3	11·2
1930	82·3	81·8	17·7	18·2

(b) The Weight in Grams of 1,000 Grains of Barley.

	1928	1929	1930	Mean of Three Years
3½-in. rows	38·2	36·4	35·2	36·6
7-in. rows	39·1	36·2	34·4	36·57

It has already been shown that the ears on the close rows were heavier than the others. The individual grains, however, were equal in weight, since the thousand corn weights are the same.

It follows, therefore, that growing barley in close rows increases the production of numbers of grains on unit area of ground. Unfortunately, no actual counts of numbers of grains were made, so this argument cannot be checked.

But the following is probably a fairly correct summary of what took place: while there are more plants on the close than on the normal rows, the more uniformly distributed plants in the close rows produce ears which are, on the average, the heavier. This is due to the greater number of one- and two-ear bearing plants and conversely to the smaller number of plants with three and more ears in the close rows.

The weight of barley ears decreases as the numbers of plants increase. The third ear of plants with four ears is usually very small and the fourth ear is usually quite insignificant.

Tillering has been reduced by the more uniform distribution in the close rows.

Further confirmation of the principles of narrower barley drilling may be deduced from some preliminary trials made in 1926, when barley drilled 9 in. between the rows yielded only 84 per cent. of that drilled alongside on 6-in. rows, and in a similar trial made on small triplicated plots in 1927, when 14-in. rows of barley yielded only 82 per cent. of that on 7-in. rows, the closer rows on each occasion being associated with the higher yield.

There is further substantiation. From time to time in attempting to drill the 3½-in. barley with accuracy, plots have been drilled and subsequently discarded, because the second rows were not, after all, midway between the first.

In 1928 the same mistake had been made on each of the close plots. In drilling the second rows, the drill had been steered consistently too near to one side of the wheeling, and as the close plot drilling was always in one direction, double rows of corn came up at germination, instead of accurately spaced 3½-in. rows. Later the double rows merged and the close plots, to all appearances, had been drilled in rows from 2–3 in. wide and 4–5 in. apart. As they had been drilled at the same seed-rate as the adjacent 7-in. plots, the whole was treated as a normal yield trial. The value of the results depends on the assumption that this wide lateral distribution as it was called, did not space the seeds as ideally as the 3½-in. rows, but more ideally than the 7-in. rows. The yields of the wide lateral distribution plots would be expected, therefore, to be less than the 3½-in. row plots and greater than that of the 7-in. row plots.

TABLE VI.

Yield of Barley per Acre, 1928.

Distribution	Bushels per Acre.	Increase over Normal Spacing
Normal 7-in. rows . .	49·0	—
Wide Lateral 7-in. rows	51·2	2·2 bushels.
Close 3½-in. rows . .	54·8	5·8 ,,

There is therefore abundant evidence that the more uniform seeding, advocated by every investigator of censuses of cereals, can already be partly obtained in practice and does produce higher yields. It should be emphasised that better, not complete uniformity of seeding was attained in these trials, and no attempt was made to adjust the seed-rates of individual coulters, which are known to cause variation in plant population; neither was any attempt made to alter the spacing of seeds along the rows. Better seeding was obtained by drilling twice as many rows at half the usual seed-rate on each row. If these other refinements were possible the evidence suggests that further yield increases should be obtainable.

THE QUALITY OF THE BARLEYS.

Barley is an exceptional cereal in that it is the one in which quality most nearly approaches yield in importance; in a few districts of England quality has always been the main desideratum and at those places, several of which are in Norfolk, the present ruinous prices of grinding barley has riveted attention even more steadfastly on the factor influencing quality. Unfortunately, the more uniform spacing in the close rows, which appeared in 1928, to influence the percentage of nitrogen in the grains, taken here as a fair measure of quality, has not done so in the subsequent years; neither has there been any difference in the valuation of the barleys in any year.

TABLE VII.

The Percentage of Nitrogen and the Barley Valuations.

	1927		1928		1929		1930	
	Close	Normal	Close	Normal	Close	Normal	Close	Normal
Per cent. Nitrogen . . .	1·357	1·357	1·465	1·530	1·348	1·230	1·443	1·437
Valuation per quarter . .	50*s.*	50*s.*	45*s.*	45*s.*	48*s.*	48*s.*	26*s.*	26*s.*

Observations on the growth showed that a more uniform appearance was evident early in the year on the close drilled plots, which came into ear usually about two days before the remainder, but this has not modified the quality in any way. The barleys have been the same to the eye of the buyer, and as that method is the only one accepted in commerce, no financial advantage from better quality is to be expected from barleys grown in close rows. That is a disappointing but necessary conclusion.

WEED CONTROL AND CLOVER ESTABLISHMENT.

To suggest that the trials could be left at this stage, would be to ignore two important practical corollaries. Barley is taken normally in the Norfolk four-course rotation—the most commonly practised rotation in the country—after a root crop, and is undersown with clover or a rye grass and clover mixture. The enquiry could not, therefore, be complete until, first the clover yields and secondly the control of weeds were considered. It is possible that the growth of both clover and weed would be affected by the more dense cover and intensive competition produced at an early date in their growth, by the close rows of barley. It does not seem likely, however, that the germination of either would be affected by more dense cover, but growth subsequent to germination might be hindered. In fact, under excessive early competition, both clover and weed seedlings might succumb, and a desirable, as well as an undesirable result, would be produced thereby. If, on the other hand, early development of clover and weed is not impaired, but the subsequent growth of both is kept in check, an entirely desirable situation would be produced. The farmer's answer, however, in the case of small seed development will be supplied by the respective yields of hay, but it does seem reasonable to expect the close rows to exert some control over the development of weeds, for no horse or hand hoeing can be done between such narrow rows.

Fortunately, it was possible on one occasion to test the influence of the two spacings on the development of weed. In 1927 when the trials were situated on unusually light land, a number of field poppies developed to an extent capable of measurement by separating the weed from a number of sheaves of corn. By weight, the weed development on the close rows was half of that on the normal, and while there has not, in subsequent years, been sufficient weed for these figures to be confirmed, there seems no reason to assume that the effect would not be repeated under similar circumstances. There is, therefore, evidence that the influence of the close spacing is on the development of the weed subsequent to germination and not on the establishment of the seedlings.

The yields of hay in the years following the barley trials have been twice determined. In one year the barley was not undersown and the 1930 sown clover is, of course, not yet harvested. In the other two years the hay yields have been equal, the actual data gives the close-drilled plots a slight advantage, but the difference is insignificant statistically, and must therefore be disregarded. No figures are available from which the actual germination and establishment of the seeds could be compared, but as the hay plots have always looked the same and the yields of hay have been equal for all practical purposes, it is possible that farmers will be satisfied, that closer drilling will be no detriment to the establishment of the clover and grass seeds sown under the barley. On the contrary, if the grasses and clovers after germination are unable to make as much growth as usual in the barley, as is suggested by the fate of the poppies in 1927, close drilling has one more point in its favour. Moreover, it is one which would be particularly welcome in a wet harvest, or at any other time when harvest becomes protracted, when in consequence, the clovers are quite likely to grow out of the barley before it can be cut.

THE PRACTICAL SIGNIFICANCE OF CLOSE DRILLING.

Of the ways by which yields of cereals may be increased, manuring and the choice of the most suitable variety are easily the most effective. Cultivation is generally accepted as influencing yield, but, while everyone knows what divergent results are to be expected from good and bad tillage, there is little really definite evidence of the comparative effects on yield of two admittedly good methods of tillage, or even a good one or a bad one. On the other hand, the relative merit of two well-known manures or of two prominent varieties of cereals is usually known or is soon ascertained after their introduction. It is therefore, almost useless to attempt to compare with other methods of tillage the one which has just been described. But a contrast may be drawn, with the results of variety and manurial trials of barley, and for that purpose it will be best to confine the comparison to results on the Sprowston Experimental Farm, where usually, at least three-fifths of the farm is cropped with barley and where barley variety and manurial trials grown both after sheep and roots carted off, have been conducted in each of the last five years ; at the same time, and in fact sometimes on the same field as these close drilling trials. During that period the highest yielding barley variety was Spratt Archer, the result of a cross made by Dr. H. Hunter, about fifteen years ago. The superiority of that excellent variety, according to the trials, which are part of the Ministry of Agriculture Crop Variety Testing Scheme, is no more than 9 per cent. over the mean yield of all other varieties in the trials. It is a very acceptable increase, but it is much lower than the popular estimate of varietal yield differences. Neither does it seem likely that any further addition to yield will accrue quickly from future new varieties, for even the best of the present ones are incapable of standing under conditions of high manuring, which means that their yield limit is quite easily reached. For exactly the same reason the uses of manuring are limited, and while the Sprowston Trials have shown that it is sometimes possible to increase the yield of barley by as much as 25 per cent. by appropriate manuring after mangels or swedes carted off, it has been a rare occurrence to record more than a 10 per cent. increase to manures, when sheep have folded the preceding swedes, as is the common arable farming practice. And in either case, there may be no manurial response when weather conditions are unfavourable. The three bushel per acre increase for the close drilling trials, which is 7·4 per cent. of the average yield of the common practice of 7-in. row drilling compares quite favourably, therefore, with the recent progress obtained from new varieties, or from artificial manuring. Close drilling, however, has the great advantage, given a drill that will drill corn at the required row distance, without going over the land twice, that the cost of the extra corn to be obtained, is confined to the extra cost of harvesting, threshing and marketing a crop, about 3 bushels per acre heavier than usual, a by no means alarming prospect. The practice of the new suggestion is not so simple, for it involves practical issues for both the implement maker and the farmer. That the Agricultural Engineer's part is not difficult, omitting for the time being, the commercial issues which he must always consider, is suggested by the existence of drills in Denmark made to sow corn at 4 in. between the rows, and the presence of two old makes of corn drills on an occasional Norfolk farm, which were popular fifty years ago, and which are provided with twenty coulters along a width of 8 ft. 4 in., giving a row spacing of 5 in. The full number of coulters was used for barley, but a quarter of them were put out of action when drilling wheat. The Danish drills often have nineteen coulters. So large a number of narrowly spaced coulters would be expected to increase the draught of the machine and present difficulties on an inferior seed-bed. The first objection might mean an extra horse on a poor seed-bed, or a hilly field, but no difficulty should be experienced on what is expressively termed a barley seed-bed. The second objection is met at once : drills have been used successfully in the past to drill corn at 5 in. between the rows ; drills exist to-day which will do it. As for the inferred difficulty on poor seed-beds, barley ought never to be sown on a seed-bed so cloddy or foul that coulters, say four inches apart, cannot clear themselves with a little assistance.

Moreover, the difficulty is no longer experienced, if two rows of drill coulters are used, as in the familiar small seeds drills. The "staggered" coulters in that instance, are successful as they appear to be in Denmark, where, although it may not be relevant to the issue, the average barley yield over the period 1916–25 was 1·7 bushels per acre higher than in England.

There is experimental evidence that yet further increases could be secured if with closer rows we could combine more even distribution in the row. This possibility can be realised only by the efforts of drill-makers to improve the mechanism of distribution.

There remains to be discussed the problem of keeping land clean when the corn is drilled on very narrow rows, and as already mentioned, horse and hand hoeing becomes impossible.

Methods of weed control, however, have changed since the days of Tull: indeed they have changed considerably during the last twenty years, when the introduction of the tractor and tractor-drawn implements has made stubble and other cleaning operations on bare land more expeditious and certain. In consequence the root crops, the stubbles in the autumn, and the seed beds in the spring are the places where cleaning is done, and the corn crops receive little hoeing, either by hand or machine. As a rule there is no need or time nowadays, to do more than spud the thistles in the corn. The operation of hoeing in the spring corn has long been relegated to obscurity, and the horse-hoeing of wheat, still practised be it admitted in some districts, seems likely to follow, if present economic conditions persist. It is only in the case, then, of autumn-sown wheat that the inability to horse hoe may be a practical disadvantage of close rows. Oats are often drilled both ways and horse-hoeing is then impossible. Barley, the cereal affected by the trials in question, is frequently undersown, with grasses and clovers, which as soon as they are sown prevent any further hoeing. Barley seed-beds are most cheaply cleaned during preparation, and the occasions therefore are not many when hoeing between the rows is a profitable operation. The occasions are surely insufficient to justify refusing the extra return in corn which is promised by close drilling.

Drilling both ways has been suggested as a means of greater seeding uniformity. Its practice, however, on any large scale is prevented because it then takes twice as long to drill the corn, and the number of good seeding days are not usually sufficient to encourage such liberties. Moreover, the seeding is not so uniform as that obtained by drilling twice the usual number of rows; the places where the rows intersect contain either twice the concentration of seeds or some are displaced. Drilling both ways, however, is better than the present methods and is practised by many sainfoin-growing Norfolk farmers, who mix the sainfoin and barley seed together and drill in two directions, the second at right angles to the first

In all there seems no insuperable reason why barley should not be drilled in close rows, but the general adoption of the suggestion would necessitate the modification of present-day drills and that would increase their cost.

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SUMMARY.

(1) Barley drilled on light land at 2½ bushels per acre has been compared on drill rows 3½ in. and 7 in. wide in 4 successive years, when the rainfall over the period March to July inclusive varied from 6·46 in. (3·5 in July) in 1929, to 11·75 in 1930 (4·18 in July).

(2) The 3½-in. rows yielded consistently higher than the 7-in. rows, the average yield increase of grain being 3 bushels per acre.

(3) Representative parts of each crop were examined in detail each year. The numbers of plants at germination were estimated and the produce of each foot length, the unit taken, was harvested separately and examined.

(4) There was less mortality in the close rows and more tillering in the wide rows. As a result approximately the same number of ears per acre were produced. The close rows yielded higher, because the ears were heavier, and that was because there were more one- and two-ear bearing plants on those rows, and less plants with three and four ears, from which it must be deduced that undue tillering in a normal barley crop is not required. The more the plants can be prevented from carrying more than two ears the higher will be the yield. They can be prevented from doing so by more uniform seed distribution.

(5) No beneficial effect on quality was obtained by closer drilling.

(6) Weed development was reduced in the only instance when

it was measurable, and there has been no difference in the yields of hay from the clover, or rye grass and clover, mixture sown under the barley.

(7) Barley used to be drilled in Norfolk on narrower rows than is the present practice, for old drills which are constructed to drill 5-in. rows are occasionally found and some are still in use. That there is no insuperable difficulty in modified drill construction is proved by the use of drills on the Continent for drilling barley 4 in. between the rows.

(8) If British corn drills were made to drill barley in one operation at 3½ in. between the rows, there would be an increased revenue, according to the results of the trial, of from 10*s.* to 20*s.* per acre depending on the sale price, and the cost of that increase would be confined to the extra cost of harvesting and threshing with occasionally a little more horse and manual labour at drilling.

(9) Drills to distribute more evenly in the row would bring still further yield increases.

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A NOTE ON SEED DRILLS.

DURING the last five years increased interest has been taken in seed drills. Since 1912, when the Royal Agricultural Society of England carried out some very interesting trials, no further tests were made until the necessity for more minute examination of the work of drills arose from the census method of examining the plant population of a field of wheat (*vide* 1, p. 180). In that analysis the yield varied from place to place in the field broadly, according to the number of plants per foot length of row at each point, and it was argued from the evidence of irregular seeding, disclosed by the 1912 R.A.S.E. Trials (*vide* 2, p. 362), that " the drill must not be overlooked in seeking the factors of yield control." In 1926 a further census, this time of an acre of barley, showed variations very similar to those on the acre of wheat, but (*vide* 3, p. 115) the writer definitely charges the drill with being a prime cause of seeding irregularity, and suggests that the causes are in the inter-coulter seed rates, and the irregularity in deposition of grain by the individual coulters. So far, corn drills only have been under review, but in 1927 a census of an acre of roots disclosed that variations along the rows of root plants were just as great as along the rows of cereals, and the probable explanation of the existence on one unsingled row of mangels of 8·5 plants per foot and on another of 14 plants is given as the different seed rates of the two spouts of the drill (*vide* 4, p. 450). Definite evidence is given that the variation in plant is associated with yield, and the conclusion is supported by an examination of the plant on five fields of sugar beet, situated in three of the eastern counties, reported in 1928 (*vide* 5) in which it is shown that a badly distributed plant might, at the prices then ruling for beet, reduce the gross return by a maximum of £9 per acre. Moreover, the average number of seedlings per foot is proved to vary according to the coulter which has drilled them (*vide* 5, p. 581) and the report summarises the position by stating that "root drills, like corn drills, are doubly imperfect. Individual coulters deposit inconstantly over successive short periods of time, and the average deliveries of coulters of one and the same drill over a considerable period of time are unequal. No amount of care in preparing the seed bed can counteract inherent drill deficiencies."

By far the most detailed examination of drill output, however, was published in 1928 (*vide* 6) which, having further demonstrated the alteration in plant, and hence the variation in drill action, from foot to foot, shows very plainly that there is also little uniformity in plant and drill action from inch to inch of the same row. The writer of the paper demonstrates that the primary cause of irregular drill seeding in the case of the cupfeed drills is in the inconstancy of the cup loads, and suggests that "improvement in cup design appears to be the salient requirement of more constant drill action."

TESTS AT THE NORFOLK AGRICULTURAL STATION.

At intervals from 1926 to 1930 further drill examination has continued in Norfolk, but for various reasons, the work outlined in the following pages and which was financed by the Royal Agricultural Society of England was not published. To present the whole now would be to burden the evidence summarised above. A few of the more salient features, however, may be given, for at times points not previously investigated were considered. It must be distinctly understood, however, that the complete detail of the trials is not presented, but an attempt will be made to give, in what can be nothing but a summary, a fair representation of several years of very detailed work.

The Variation in Seed-rate of Individual Coulters.

A seed output at the rate of say 4 bushels per acre from the whole width of a drill is but the average of a number of other seed-rates. Each coulter of the drill is usually fed by an independent set of cups or comparable mechanism, and while the usual twelve to sixteen coulters may together distribute four bushels of seed on every acre, there is always a chance that one coulter is sowing at more than four bushels to the acre, and another at less than that amount. At the worst the field may be seeded, with a sixteen-coulter drill, at sixteen different seed-rates. But do the coulters of the farmers' drills exhibit in practice this individual idiosyncrasy? They do, according to all trials so far published in Great Britain.

The results, however, in nearly every case, have been obtained by jacking up the wheels of the drill, attaching small sacks to each coulter, putting in well-dressed seed and then turning the drill wheel by hand until the process of drilling a fraction of an acre has been imitated. Usually about one-eighth of an acre was "drilled" in that way, the process being repeated from 8 to 10 times. An example is given in detail on the next page.

In the later investigations at the Norfolk Agricultural Station tests made in that way were followed by tests made of the work of the same drill in the field. The plants on each coulter row were counted and the following comparison is an example of the variation in seed-rate and the plant in the field which was obtained by each method. In either case, the expression is the percentage of the data for the lowest seeding coulter.

Coulter No.	1	2	3	4	5	6	7	8	9	10	11	12
By Drill Test .	113	109	111	113	100	111	115	110	101	113	107	100
By Field Plant Counts . . .	117	107	113	113	99	117	117	110	101	115	110	100

That plant counts in the field are an acceptable measure of the work of the drill has been argued before, and the attending factors have been fully discussed elsewhere (*vide* 6, p. 28). The above instance is the work of a popular make of internal force-feed drill, and is one of the most uniform seeding drills of its type. Yet the seed-rate of the extreme seeding coulters differs by 15 per cent. A detailed example of the spacing by a similar drill of the seeds along the rows is given on page 113.

From tests of sixteen other drills for inter-coulter seed-rate variation a table has been compiled showing the *extreme variation* in seed rate. The original data has been recalculated on the assumption that the seed-rate of the lowest coulter was 2 bushels (112 lb.) of barley. When the lowest seeding coulter

THE DETAIL OF A DRILL TEST FOR INTER-COULTER SEED-RATE VARIATION.

Trial	Lb. per Coulter No.														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	3·6	4·4	4·0	4·0	4·0	4·1	4·0	3·9	3·7	4·0	4·0	4·4	4·3	5·0	4·1
2	3·7	4·4	3·9	4·1	4·0	4·2	4·0	3·9	3·7	4·0	4·2	4·4	4·3	5·1	4·1
3	3·9	4·4	3·9	4·1	4·1	4·2	4·0	4·0	3·7	4·1	4·2	4·4	4·4	5·1	4·2
4	3·9	4·3	3·9	4·1	4·1	4·1	3·9	3·9	3·6	4·1	4·2	4·3	4·3	5·1	4·1
5	4·0	4·4	3·9	4·0	4·0	4·1	3·9	3·8	3·7	4·1	4·1	4·3	4·3	5·1	4·1
6	3·9	4·4	3·9	4·1	4·0	4·1	3·9	3·8	3·7	4·1	4·1	4·3	4·3	5·1	4·1
7	4·0	4·4	3·9	4·1	4·1	4·2	3·9	3·9	3·7	4·1	4·2	4·4	4·4	5·1	4·1
8	3·9	4·4	3·9	4·1	4·1	4·2	3·9	4·0	3·7	4·1	4·1	4·4	4·4	5·1	4·2
9	3·7	4·3	3·8	4·0	4·0	4·1	3·9	3·9	3·7	4·0	4·0	4·3	4·3	5·0	4·1
10	4·0	4·4	3·9	4·0	4·0	4·1	3·9	3·9	3·6	4·1	4·1	4·4	4·4	5·1	4·1
Mean .	3·9	4·4	3·9	4·1	4·0	4·1	3·9	3·9	3·7	4·1	4·1	4·4	4·3	5·1	4·1

THE DETAIL OF A DRILL TEST FOR VARIATION ALONG AND BETWEEN THE ROWS,

based upon counts of plants in the field.

Coulters.	1	2	3	4	5	6	7	8	9	10	11	12	13
	22	32	26	38	29	43	27	34	36	20	43	32	30
	28	30	25	28	34	31	22	26	41	29	30	30	23
	57	10	32	23	28	18	21	10	31	24	33	10	34
	37	22	26	24	29	21	25	23	32	26	32	22	27
	37	27	37	43	26	52	35	25	17	21	14	27	15
	12	31	28	26	15	26	23	11	29	13	32	31	21
	35	29	32	37	31	22	24	26	24	16	19	29	25
	39	42	34	33	24	47	36	21	17	36	32	42	38
	32	26	33	22	21	35	20	17	44	30	25	26	24
	33	41	28	34	29	28	41	23	42	24	45	49	38
	30	30	41	44	40	39	44	32	29	20	26	30	23
	25	35	44	30	26	46	27	17	31	24	23	35	26
	35	44	23	34	28	32	26	16	30	14	19	44	36
	52	36	42	24	25	28	27	27	24	26	27	36	10
	28	23	24	25	23	28	29	25	38	22	30	23	29
	29	30	34	19	33	20	27	18	27	20	43	30	20
	19	15	28	46	30	34	32	30	33	29	29	15	23
	16	30	13	29	23	31	29	25	38	28	36	30	14
	30	12	27	40	34	34	30	20	22	16	30	12	23
	35	39	38	42	22	25	22	15	30	17	18	39	35
	35	20	44	26	29	41	41	19	30	16	45	20	20
	61	24	37	35	19	25	33	26	20	25	29	24	41
	16	29	19	33	35	53	27	29	30	25	33	29	32
	18	20	34	15	31	31	21	11	28	31	33	20	10
	18	32	26	22	22	30	37	27	26	12	22	32	29
	22	21	29	25	26	41	26	21	31	24	27	21	31
	35	15	29	33	30	37	30	10	30	29	37	15	13
	19	19	43	22	36	28	27	22	35	18	38	19	30
	38	29	25	23	26	38	19	33	24	33	31	29	9
	35	20	38	29	32	28	28	24	24	23	28	20	24
	29	21	26	30	20	22	20	22	33	22	31	20	28
	39	47	26	28	27	22	35	31	23	21	36	30	39
	31	34	42	27	11	36	35	22	34	21	22	16	34
	46	32	27	28	29	41	30	23	33	21	51	31	26
	41	14	18	52	25	28	16	17	27	19	13	30	31
	39	35	30	23	20	35	21	14	21	33	27	19	36
	17	32	26	30	35	24	33	21	32	18	27	36	27
	23	30	27	31	29	36	27	29	23	22	35	27	17
	23	38	34	25	18	23	22	20	20	30	32	31	20
	19	30	33	29	15	49	36	31	33	11	25	13	30
	43	31	26	29	37	28	24	24	22	25	26	42	18
	36	15	39	36	17	26	23	26	33	41	20	19	21
	40	44	22	24	31	31	31	18	21	19	32	22	24
	30	18	33	38	26	33	19	15	24	19	28	24	25
	18	26	30	33	25	26	24	20	41	37	32	23	28
	40	28	30	25	33	32	22	19	10	25	50	14	26
	39	17	44	28	27	28	33	24	25	25	20	16	21
	34	30	26	37	22	35	19	19	31	24	28	30	25
	38	32	21	30	17	25	19	13	26	29	15	26	8
	32	30	41	27	19	33	22	17	32	19	25	32	33
Total	1,591	1,397	1,540	1,509	1,319	1,585	1,366	1,088	1,455	1,172	1,484	1,322	1,300
Average	31·82	27·94	30·80	30·18	26·38	31·70	27 32	21·76	29·10	23·44	29·68	26·40	26·12

The above gives *one-third of the detail* obtained at the Norfolk Agricultural Station in testing each coulter of a drill for variations in plant numbers along and between the rows of corn sown by each coulter.

sows 112 lb. per acre, the highest seeding coulter sows per acre :—

Eight External Force Feed Drills. lb.	Five Internal Force Feed Drills. lb.	Three Cup Feed Drills lb.
135	133	134
153	136	117
141	135	122
146	132	
146	144	
142		
147		
160		

In each instance there was at least one coulter seeding very much below the seed-rate of the whole drill and at least one which seeded equally high : the remaining coulters seeded intermediately between the extremes shown above. It was rare to find two coulters on any drill sowing at the same seed-rate per acre or at the mean seed-rate of the whole of the coulters. External force feed drill number 2—a bad offender—would drill 2 bushels of barley to the acre down one spout and nearly 2¾ bushels down the one at the other extreme. That it is possible to improve on this performance is shown by the best drill—cup feed drill number 2, which, when sowing 2 bushels to the acre from its lowest seeding coulter is only ·1 bushels above this from its highest. The standardisation of the seed-rate of each coulter is one feature in which, from the farmer's point of view, improvement is required.

Similar irregularities in the seed-rate of drill coulters existed in 1912 and is shown by the trials of corn and seed drills carried out by the R.A.S.E. and reported in Volume 73 of the Society's *Journal.* It seems, however, that the variation, although recognised, was passed over by the judges as being of no moment. So that a comparison may be more easily made between the two series of trials, those figures given in the Society's 1912 trials for the lowest and highest coulters have been re-calculated on the assumption that the lowest coulter seeded at the rate of 112 lb.—of peas, used in the trials—to the acre. When this is done the following table is obtained :

Drill.	Seed Rate of Lowest Seeding Coulter. lb.	Seed Rate of Highest Seeding Coulter. lb.
The British Economical	112	168
Superior	112	140
Teasdale's Cup Feed. . .	112	160
Walker & Son's Corn Drill	112	145
Kell & Company's "John Bull" .	112	145
Martin & Company's Forced Feed .	112	130
Teasdale's Forced Feed . .	Choked	Choked
Walker's Anglo-Colonial . . .	112	156

It is not possible to compare the results of the other coulters, for the published data of the drill trials of 1912 give the seed-rates of only two, and these are respectively the ones seeding the highest and lowest. There is less emphasis when the performance of each coulter of any drill is given. The work of five drills, representative of the common types, is therefore given as an example of the complete order of intercoulter variation that may be expected. Seed-rates are expressed as percentages of the seed-rate of the lowest seeding coulter.

Coulter No.	1	2	3	4	5	6	7	8	9	10	11	12
(*a*) External Force Feed												
Drill 1 . .	100	121	116	118	121	124	116	114	019	119	114	125
(*b*) Internal Force Feed												
Drill 2	114	115	116	108	100	110	101	119	113	105	103	129
Drill 3 .	118	109	119	108	118	111	118	106	109	110	100	115
(*c*) Cup Feed												
Drill 4	120	106	117	104	117	107	116	100	108	100	120	109
Drill 5	103	109	105	110	100	105	107	110	—	—	—	—

Drill 1 has sixteen coulters, the figures for the remaining coulters being 119, 143, and 112.

Drill No. 1 was three years old, No. 2 had sown 10 acres only, while both No. 3 and No. 5 had been used for two seasons sowing: No. 4 was eight years old. The examples given above were selected, because each drill was almost new. It is interesting, therefore, to see what these variations mean in farmer's terms. Two and a half bushels of barley (10 pecks) is no unusual barley seed-rate; if, for illustration, therefore, 2 bushels (8 pecks) is taken as the seed-rate of the lowest coulter, a fair practical proportionate representation of the seed-rates of the others can be calculated. Taking the new drill No. 2, which make is found on almost every other arable farm, there are 4 coulters seeding between 10 and 10·5 pecks per acre, 2 between 10·5 and 11, three between 11 and 11·5: 2 between 11·5 and 12, and 1 at nearly 13 pecks per acre. Under such circumstances it is impossible to seed any field uniformly. If variation of such an order is not important, why have farmers for generations sought the "best" seed-rate and why have experiments been carried out to ascertain the relative merits of two or more seed-rates, and what in the light of this evidence is the value of the results?

VARIATIONS IN DISTRIBUTION ALONG THE SAME COULTER ROW.

Each of the publications cited at the end of this note gives proof of the change in density, or closeness of the plants, along the rows of corn, and there is no need to go further than give a few illustrations. The first is interesting because the farmer on whose land the counts, of oats in this case, were made, had great faith in the capability of his drill to sow evenly. The cursory examination of a farmer usually far too busy to be concerned with the detail of foot-length counts does not disclose the true state of affairs. The detail of successive foot-length counts of barley on each coulter of a drill given on page 113 is but one-third of the counts made in the field to test the work of the drill. In the case of the oats, the foot lengths proved to be very differently populated. The counts on one coulter will suffice :—

Coulter B	27	34	27	29	15	14	17	16	20	20	10	2	25
	21	6	7	17	29	16	23	12	17	32	19	16	20
	13	24	8	0	2	25	3	26	23	7	19	14	11
	10	42	21	27	25	14	23	9	2	16	21	—	—

In few instances, therefore, are adjoining feet populated to the same extent. It is, in fact, much more usual for there to be appreciable differences between them. Instances of one foot-length having ten more plants than the foot-length before it are not uncommon. When 3 bushels of barley are sown in the normal course of practice at about 7 in. between the rows, there are sufficient seeds for the drill to deposit twenty-four on each foot-length of coulter row. At this seed-rate the ideal drill would place twenty-four—neither more nor less—on each foot-length under all reasonable seed bed conditions. Moreover, each seed would be equidistant; at the above seed rate and distance between the rows each seed would be half an inch from its neighbour in the row. There is no drill capable of such precision and it is probable that one will never be made, but that does not mean that improvement is impossible in the present designs.

THE SEED-RATE SETTING.

In the 1912 Royal Agricultural Society of England trials eight drills were set to sow 3 bushels of barley to the acre. The results were 2·5, 2·6, 2·9, 2·9, 3·0, 3·2, 3·4 and 3·6 bushels respectively. Trials comparable in every detail with these have been made in Norfolk, and 4 to 24 per cent. more or less seed has been sown than the drill setting indicated. No criticism of drill mechanism, however, is justified from these figures. Seed-rate varies according to the size and condition of the seed, and the setting to put on any required amount may alter as the drill wears. Some quick and simple method of testing the seed-rate setting for each sample of seed is required and a reminder stamped on the drill urging its use.

Of a rather different nature is the difficulty usually experienced in setting and resetting a drill, so as to give the same seed-rate from the same sample of corn. Absolute accuracy in this respect seems almost impossible. Various mechanisms controlling the seed-rate are in use. Cog-wheels of varying sizes, multiple gear discs, the size of the cups, or the aperture of the external force feed drills or other means may be utilised to vary the seed-rate. On different drills their accuracy is extremely variable, no matter how carefully the setting is done, and how evenly the drill is drawn. The inaccuracy is at its greatest in the external force-feed drills and at its least in the expanding cup-feed drills, but only on those drills where the setting is done to one of several lines engraved on one of the cups, is a tolerable degree of precision obtained in the result of resetting. Drill makers might give this matter some attention, for a solution of the difficulty would greatly increase the accuracy of drill work on the farm.

A CAUSE OF DRILLING IRREGULARITY.

A badly-dressed sample of corn containing small stones, poppy or thistle heads, rodent excreta, excessive awn or other extraneous matter will undoubtedly cause irregular seeding. These and other factors, such as the influence of the tilth on drill action and the possible effect on the wear of essential parts (*vide* 6, p. 28) have been fully discussed. The size of slide aperture through which the seed passes from the seed-box of a cup-fed drill to the cups exerts an influence on seed delivery, and a seed-rate difference of 12 per cent. between half and three-quarter open apertures is recorded. The drill in question was a popular English Cup Feed make and the fluctuating number of seeds ("cup loads") carried by each cup is proved to be the chief factor in the inconstancy of coulter output.

The force-feed drills have no such arrangement and the seed in the seed-box impinges directly on the seed distributing mechanism, which is placed in the bottom on the seed-box. The weight of the seed may therefore determine the regularity of the supply to the distributing machinery. The subject has been investigated by making foot-length counts in the field, on a number of rows of corn, sown with decreasing weights of seed in the seed-box. These at the time of drilling the areas ultimately counted, were respectively 1·4, 1·0, 0·6 and 0·3 bushels of barley. Counts were made for each of eight coulters when drilling six varieties of barley. In all 1,536 foot-lengths of barley were counted, and the average number of plants per foot-length is given for each weight of seed in the seed-box:

	Bushels	Bushels.	Bushels.	Bushels.
Weight of seed in seed-box .	1 4	1·0	0·6	0·3
Plants per foot length of row—				
All Varieties . .	25·4	25·2	24·8	24·7
Plumage Archer . . .	27·2	25·0	25·0	25·4
Spratt Archer . . .	33·1	31·7	31·3	31·4

No material influence of weight of seed in the seed-box can, therefore, be claimed, although there is a slight but unimportant suggestion that while the box is full more seeds will be forced out. Since the seed setting was unaltered for each variety, *there is shown, in passing, an interesting comparison of the* number of plants obtained from the small seeds of the variety Spratt Archer and the larger seeds of Plumage Archer.

A rough seed-bed or the jolting of the drill in and out of badly harrowed-in furrows, does not impede the supply of seed to the distributing mechanism of a force-feed drill. On the contrary, it is more likely to maintain a constant supply to the feed at the base of the seed-box. On one occasion a per coulter seed-rate test was made by driving the drill along a country road in poor repair—over a very rough seed-bed in fact—with results comparable in almost every detail with the standard method of testing, in which jolting of the drill does not enter, for the seed-box remains stationary during the whole process. Neither is there, in the force-feed drills, the chance of irregularity associated with the cup-feed drills when the seed is quite easily thrown, as a result of quick starting or nervous horses, over the lip of the funnel, and does not enter the leads to the coulters. One drill test was made on an external force-feed drill at three different speeds. The results were:—

Speed of Drill.	Seed Delivered per Acre.
2 miles per hour	105 lb.
4 miles per hour	105·5 lb.
6 miles per hour	104·5 lb.

In a previously reported examination of an English cup-feed drill (*vide* 6, p. 33), the fluctuating numbers of seeds—the "cup loads" as they were termed—carried by each cup proved to be the chief factor in the inconstancy of coulter output. Comparable deficiencies exist in the seed-distributing mechanism of the external force feed and expanding cup-feed drills.

In the expanding cup-fed drill tested for constancy in cup load each coulter is fed by eight cups. In testing, a different method from that used at Cambridge (*vide* 6, p. 33) was introduced; seven of the cups were thrown out of action by filling them with plasticene, and then covering with gummed paper. Thus no seeds were picked up and delivered by cups so treated. The land wheel was then turned, and the seeds delivered by the one cup left in action were counted. Fifty separate seed collections were made in this way for each cup in turn. The results for two coulters, taken at random, will illustrate the results, which proved to be more regular than those of the external force-feed drill. In both cases the number of seeds is given to the nearest whole number.

No. of Seeds per Cup Load—Expanding Cup Feed Drill.

Cup	1	2	3	4	5	6	7	8
Coulter 15 .	29	24	26	23	21	23	21	22
Coulter 13 .	24	24	23	24	23	23	22	23

The seeds are turned out in the external force feed drills by a number of fluted cylinders attached to a spindle, the size of each flute determining the number of seeds fed to the coulters. It is not easy, however, to measure the flute seed-output with accuracy. There were twelve flutes feeding each coulter on the drill examined and the number of seeds delivered per revolution of the land wheel by the twelve was first determined. Then the drill wheel was turned so that eleven flutes delivered seed and the twelfth did not, a procedure which was not difficult after a little practice. Thus, by difference was obtained the "flute load" of each flute in turn.

The Average No. of Seeds per Flute of Two Coulters—External Force Feed Drill.

Flute	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*
Coulter 14 .	40	33	31	33	43	42	42	41	39	37	34	35
Coulter 1 .	36	28	28	13	20	39	24	30	14	20	23	24

The different cup or flute loads, therefore, vary in a manner akin to the foot-length counts made in the field, and there is little doubt that the origin of irregular seeding in these two drills, as in the fixed-cup drill already mentioned, is in the mechanism delivering the seed to the coulters. The inconstancy of the output of seed is the main cause of irregular seeding along the rows, and for the seed-rate variation from row to row. That there are other factors has been made abundantly clear (*vide* 6, p 38) and, to quote that authority once more, "the outstanding feature proved to be inconstancy of cup load, *i.e.*, number of seeds delivered by any and every cup of the drill into the hoppers. It is shown that, from this cause alone, wide fluctuation in per foot deposit of seed is inevitable. . . . Improvement in cup design thus appears to be the salient requirement for more constant drill action." To the cup feed drill may now be added the external force-feed drill, and to a much less extent the expanding cup-feed drill. The corresponding part of the internal force-feed drills has not been analysed. Irregularity in seeding is undoubtedly due to a large extent, to this inherent deficiency in drill mechanism, which is much more persistent and potent in effect than erratic draught, a bad seed bed, wear and tear, neglect on the farm, or any of the more obvious matters, which may affect seeding. The engineering problem is to incorporate the results in future drill design and whether that is, or is not, done will depend presumably on the possibility of selling the improved machine. The life of a drill is a long one, especially of those substantially made English cup-feed drills, which are still as good as most, and better than many, drills on the British market. The need for a new drill on the farm does not often arise, and the results of these trials will only be absorbed slowly into practice. When they are it will be to the benefit of the farmer. They have already influenced certain new models, and stimulated the inventive genius of more than one person.

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CHICKEN-REARING EXPERIMENTS TO TEST VARIOUS MILK PRODUCTS

These experiments were conducted at the South Eastern Agricultural College, Wye, at the request of the Royal Agricultural Society of England, a capital grant and maintenance grant being made by the Society.

Objects of the Experiments.

The experiments were designed to test the relative values of various milk products as constituents of chicken-rearing rations, so as to obtain data as to:—

(1) The food cost of rearing to various ages.
(2) The rate of growth.
(3) The amount of food required per lb. increase in weight.

Method of Feeding.

It was decided to adopt the all-mash method of feeding since previous experience had shown that where daily rations consist in part of a grain feed and part mash, it was impossible to be certain that the ratio between mash and grain consumed was always constant. Some birds would eat more or less grain or mash than others, and so alter the make-up of the total day ration. To overcome this, instead of feeding grain separately, what was considered a normal ration of grain was ground up and incorporated in the mash mixture.

The experimental substance in each case (when dry) was mixed with a basic dry mash ration which was known to be suitable for chicken rearing. The experimental substance, when of a liquid nature, was given as a drink. In all other cases the birds were given water to drink *ad lib.* The meal mixtures were in all cases fed *ad lib.* throughout the experiments.

Experimental Material.

The milk products which it was decided to experiment with were:—

(*a*) Separated Milk Powder.
(*b*) Liquid Separated Milk.
(*c*) Whey Powder.
(*d*) Tinned Separated Milk.

Rations.

Ration from Hatching to 1 *Week Old.*

During this period all experimental lots of chicks were fed on the same grain ration, three times per day, and in the following proportions.

Grain Ration.

63	lb	Fine cut wheat
7	,,	Fine maize grits.
28	,,	Cut groats.
14	,,	Canary seed.
112	lb.	

Water and fine grit *ad lib.*

Rations from end of 1st Week to end of 8th Week

These were mixed in the following proportions:—

	Pen 1 Control	Pen 2	Pen 3	Pen 4	Pen 5
	Lb	Lb	Lb	Lb	Lb
Fine Middlings .	20	20	20	20	20
Sussex Ground Oats	20	20	20	20	20
Yellow Maize Meal	60	56	56	56	56
Meat and Bone Meal	18	10	10	10	10
Ground Linseed	3	3	3	3	3
Wheat Meal	40	36	36	36	36
Separated Milk Powder	—	—	—	—	10
Liquid Separated Milk	—	*ad lib*	—	—	—
Whey Powder . .	—	—	10	—	—
Tinned Separated Milk	—	—	—	*ad lib*	—
Mineral Mixture .	4%	4%	4%	4%	4%
Flint Grit .	*ad lib*	*ad lib*	*ad lib*	*ad lib*	*ad lib*

All the above meal mixtures were fed *ad lib.*

Rations from 8th to end of 12th Week.

The same five rations were used during this period as for the 2nd to 8th week inclusive, except that in each case the Meat and Bone Meal was reduced by five parts

Rations after the end of 12th Week.

The same as for the 8th to 12th weeks, except that all milk products were omitted. A subsiduary experiment was carried out in which experimental lots were divided into two and milk products continued with one half, the other half having no milk product.

THE STOCK.

For the purposes of the scheme five experimental sets of chickens were used, each of these sets of approximately 100 chicks was fed on one of the rations, which have previously been stated These sets were repeated three times at intervals of approximately one month. For these three experimental groups a different breed was used, viz. :—

Group 1 Light Sussex.
,, 2 Rhode Island Reds.
,, 3 White Wyandottes.

The total number of chicks used for the experiments was 1,430.

METHOD OF REARING.

The eggs were artificially incubated, the chicks after killing the "weeds" were transferred to Pioneer Hovers in a brooder house, each Hover having a space of 6′ × 4′ 9″. The chicks were kept here entirely indoors for three weeks, they were then transferred to Hover Houses 6′ × 5′, having grass runs 54′ × 51′.

The chicks were not allowed to run in the grass runs until six weeks of age, but were given a wire-netting run 7′ 6″ × 5′ with wooden floor, to which they had access at all times. At six weeks old these runs were removed and access given to the whole of the grass run. The chicks were kept in these Hover Houses and runs until 12 weeks old, at which stage they were transferred to Sussex Arks 6′ × 3′ in grass runs.

RECORDS.

Records were kept of the weight and cost of all food consumed, and weekly weights were taken of all chickens. During the later stages of the experiment individual bird weighings were made. The costs of feeding were worked out on the current prices at which the foodstuffs were bought.

RESULTS.

Table I gives three different stages of the experiments, namely when the birds reached the ages of 12, 15 and 20 weeks respectively.

RATE OF GROWTH.

Comparisons at 12 *Weeks of Age.*

To this stage if we consider rate of growth we find that Pen 2 (skim liquid milk) gave the highest average weight per bird, viz. 31·32 oz. If we consider the breeds separately we find that the liquid skim milk birds were the heaviest in every case. The heaviest birds of all were the Rhode Island Reds which averaged 34·7 oz.

Comparisons at 15 *Weeks of Age.*

At this stage, when milk products had been discontinued entirely for three weeks we find Pen 2 still producing the highest average weight, viz. 41·03 oz. When comparing breeds we do not get quite the same results as to the 12 weeks' stage. We find that in the case of the Light Sussex the highest average weight was produced by Pen 5 (milk powder). In the Rhode Island Reds we get the greatest average in Pen 2 (liquid skim milk) and in the White Wyandottes Pen 2 again gives the best result.

Comparisons at 20 Weeks of Age.

At this stage we find that Pen 5 (milk powder) gives the highest average weight, viz. 50·41 oz. This is, however, only slightly higher than Pen 2 (liquid skim milk) which produced an average of 49·87 oz., a difference of a little over half an ounce in favour of Pen 5. Comparisons within the breeds show the highest average for Light Sussex in Pen 5, the highest average for Rhode Island Reds in Pen 2, and the highest average for White Wyandottes also in Pen 2.

TABLE II.

COMPARISONS OF AVERAGE INCREASE IN WEIGHT PER BIRD

	Pen 1	*Pen 2*	*Pen 3*	*Pen 4*	*Pen 5*
	Oz.	Oz	Oz	Oz	Oz
Increase 0 to 12 weeks .	19·64	31·32	22·53	24·90	25·81
,, 12 ,, 15 ,,	11·62	9·71	10·17	11·99	11·95
,, 15 ,, 20 ,,	11·67	8·84	13·45	11·65	12·65
,, Total . .	42·93	49·87	46·15	47·73	50·41

These figures would seem to indicate the superior value of feeding liquid skim milk up to the age of 12 weeks and show that when the skim milk was dropped out of the ration the average rate of increase in Pen 2 fell from 1st to 5th position, where it remained up to 20 weeks of age.

TABLE IV.

SHOWING THE EFFECT ON RATE OF GROWTH OF CONTINUING MILK PRODUCTS BEYOND THE TWELFTH WEEK OF AGE

	Pen 1	*Pen 2*	*Pen 3*	*Pen 4*	*Pen 5*
	Oz	Oz	Oz.	Oz	Oz
Increase 0 to 12 weeks . .	19·64	31·32	22·53	24·09	25·81
,, 12 ,, 15 ,,	—	15·38	12·17	11·81	12·79
,, 15 ,, 20 ,,	—	8·80	12·40	9·80	9·90
,, Total	—	55·50	47·10	45·70	48·50

These figures seem to indicate clearly that in Pen 2 it was a distinct advantage to growth to continue the skim milk up to 15 weeks of age. Since the increase in weight during the period 12–15 weeks was 15·38 oz. per bird as compared with only 9·71 oz. in the case of the same pen when skim milk was discontinued at the end of the 12th week.

The rate of growth from the 15th to 20th week when skim milk was continued was identical with that of the same pen (Pen 2) when skim milk was not given. In Pens 3, 4 and 5 under similar treatment there was considerable variation in the result during the 12 to 15 week period, viz. Pens 3 and 5 showed a little advantage, whereas Pen 4 showed a slight disadvantage. During the 15 to 20 week period Pens 3, 4 and 5 all showed a disadvantage. The final weights show to the advantage of milk products in Pens 2 and 3 and to their disadvantage in Pens 4 and 5. Whether the increased final weights were worth the extra cost will be seen from the figures giving cost of production.

COSTS OF PRODUCTION.

Reference to Table I will show the costs of production of 1 lb. of chicken at the various stages of growth. From these it would seem to be the most profitable to produce a light-weight chicken at a comparatively low cost rather than a heavy-weight chicken at an increased cost per lb. A point worthy of consideration here is that the quickly grown chicken may catch an earlier and better market, also that by reducing the marketable age to a minimum, other overhead charges are correspondingly reduced, and a greater output of birds during a given period would be possible with the same amount of equipment.

To 12 weeks of age we find that the lowest cost per lb. is in the case of Pen 1 (Control), but that the average weight of the bird, viz. 19·6 oz., is not a readily marketable weight. Whereas in Pen 2 we have a bird weighing almost 2 lb. at a cost per lb. of 6·8 pence, as compared with 4·4 pence in Pen 1. The two-pound bird would be readily marketable at a good price. At the 15–week stage Pen 1 still shows the lowest cost per lb. but an average weight only equal to that of Pen 2 at the 12-week stage.

When we consider the 20-week stage we find Pen 5 giving us the greatest average weight, viz. 50·41 oz., at a cost per lb. of 6·5 pence, which is slightly higher than that of Pen 1, where the cost was 6·2 pence. Pen 5 (milk powder) would therefore seem to be the most economic proposition at this stage.

TABLE I.—MILK PRODUCTS DISCONTINUED AFTER THE 12TH WEEK.

	End of 12th Week			End of 15th Week			End of 20th week		
	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence
Pen 1.—Control.									
Light Sussex	22 0	3·7	5·1	32·7	4·5	9·2	42·0	6 2	16 3
R.I. Reds	22 5	3·9	5·6	34·6	4·4	9·6	45 8	5 9	17 1
W. Wyandottes . .	11 6	7 0	5·1	23·3	6·1	9 0	41·0	6 6	17 1
Average	19 64	4 2	5·2	31·26	4·7	9·2	42·93	6 2	16 7
Pen 2.—Liquid Skim Milk at 6d. per gall.									
Light Sussex . . .	29 9	6 8	12·7	37·3	7·1	16·7	46·7	8·1	23 7
R.I. Reds	34 7	6 3	13·7	45 8	6·2	17·8	55·4	7·6	26·3
W. Wyandottes .	28·9	7·1	13 6	41·6	6·2	16·3	53·1	7 0	23 5
Average . . .	31 32	6·9	13·5	41·03	6·5	16·8	49·87	7·9	25·5
Pen 3.—Whey Powder.									
Light Sussex	23 2	4·1	6·0	32·9	4·8	10·0	46·2	6·1	17 6
R.I. Reds	26 2	4 7	7·7	37·0	5·6	13 0	52·1	7·8	25·4
W. Wyandottes . .	16 2	6 1	6·2	26·1	5·8	9·5	40·7	6 0	15 5
Average	22 53	4 7	6·6	32 70	5·1	10·6	46·15	6·3	18·4
Pen 4.—Liquid Condensed Skim Milk.									
Light Sussex	27 3	9 0	15·3	39 8	8·0	20·0	47·8	9·0	27 0
R.I. Reds	26 0	9·7	15 8	34 0	9·4	20 0	49·8	9·7	30 3
W. Wyandottes . . .	19·1	16·0	19 2	31·2	11·5	22·5	42·2	11·0	29 2
Average	24 09	11·1	16 7	36 08	9·1	20·5	47·73	9·5	28 4
Pen 5.—Milk Powder.									
Light Sussex	27 6	4 8	8 3	41 0	5·0	12·8	50·6	6·9	21 9
R.I. Reds	28·8	4·7	8·6	30 1	6·2	14·0	50·7	7·0	22 3
W. Wyandottes . . .	19 5	5·9	7·2	38 4	4·2	10 2	50·0	5·7	17 8
Average	25 81	5·0	8·1	37·76	5·2	12·4	50·41	6·5	20·5

TABLE III.—MILK PRODUCTS CONTINUED AFTER THE 12TH WEEK.

	End of 12th Week			End of 15th Week			End of 20th Week		
	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence	Wt. in Oz.	Food Cost per Lb.	Food Cost in Pence
Pen 1. Control.									
Light Sussex	22·0	3·7	5·1	—	—	—	—	—	—
R.I. Reds	22·5	3·9	5·6	—	—	—	—	—	—
W. Wyandottes . . .	11·62	7·0	5·1	—	—	—	—	—	—
Average	19·64	4·2	5·2	—	—	—	—	—	—
Pen 2.—Liquid Skim Milk at 6d. per gallon.									
Light Sussex	29·9	6·8	12·7	—	—	—	—	—	—
R.I. Reds	34·7	6·3	13·7	47·5	7·0	20·9	55·5	10·8	37·7
W. Wyandottes . . .	28·9	7·1	13·6	46·0	6·9	20·0	55·5	10·3	36·0
Average	31·32	6·9	13·5	46·7	7·0	20·4	55·5	10·5	36·5
Pen 3.—Whey Powder.									
Light Sussex	23·2	4·1	6·0	—	—	—	—	—	—
R.I. Reds	26·2	4·7	7·7	38·4	4·7	11·4	49·2	6·5	20·0
W. Wyandottes . . .	16·2	6·1	6·2	30·0	6·0	11·4	46·0	6·8	19·6
Average	22·53	4·7	6·6	34·7	5·3	11·3	47·1	6·6	19·7
Pen 4.—Liquid Condensed Skim Milk.									
Light Sussex	27·3	9·0	15·5	—	—	—	—	—	—
R.I. Reds	26·0	9·7	15·8	40·4	9·2	23·4	52·4	13·4	44·2
W. Wyandottes . . .	19·1	16·0	19·2	30·1	14·5	27·4	41·6	15·7	41·0
Average	24·09	11·1	16·7	35·9	11·1	25·1	45·7	14·7	42·1
Pen 5.—Milk Powder.									
Light Sussex	27·6	4·8	8·3	38·68	5·8	14·1	47·7	8·2	24·6
R.I. Reds	28·8	4·7	8·6	41·7	5·1	13·5	53·4	6·8	23·0
W. Wyandottes . . .	19·5	5·0	7·2	34·2	5·5	11·8	40·2	8·2	23·7
Average	25·81	5·0	8·1	38·6	5·4	13·2	48·5	7·8	23·9

It will be noticed that in the case of Pen No. 2 the liquid skim milk used cost 6*d.* per gallon. As this cost is exorbitant and was entirely due to the lack of local supply, the following table has been prepared for purposes of comparison with the other rations. In this case the skim milk has been valued at the more reasonable price of 3*d.* per gallon.

TABLE V.—MILK PRODUCTS CONTINUED AFTER THE 12TH WEEK PLAN NO 2 LIQUID SKIM MILK

	End of 12th Week			End of 15th Week			End of 20th Week		
	Wt in Oz	Food Cost per Lb	Food Cost in Pence	Wt in Oz	Food Cost per Lb	Food Cost in Pence	Wt in Oz	Food Cost per Lb	Food Cost in Pence
6d per gallon									
Light Sussex	29 9	6 8	12 7	—	—	—	—	—	—
R I Reds	34 7	6 3	13 7	47 5	7 0	20 9	55 5	10 8	37 7
W Wyandottes	28 9	7 5	13 6	46 0	6 9	20 0	55 5	10 3	36 0
Average	31 3	6 9	13 5	46 7	7 0	20 4	55 5	10 5	36 [illegible]
3d per gallon									
Light Sussex	29 9	4 9	9 3	—	—	—	—	—	—
R I Reds	34 7	4 7	10 8	47 5	5 5	16 3	55 5	8 4	29 2
W Wyandottes	28 9	5 4	9 8	46 0	5 2	15 0	55 5	7 7	26 8
Average	31 3	5 1	10 0	46 7	5 3	15 6	55 5	7 9	27 0

MILK PRODUCTS DISCONTINUED AFTER THE 12TH WEEK PLAN NO 2, LIQUID SKIM MILK

	End of 12th Week			End of 15th Week			End of 20th Week*		
	Wt in Oz	Food Cost per Lb	Food Cost in Pence	Wt in Oz	Food Cost per Lb	Food Cost in Pence	Wt in Oz	Food Cost per Lb	Food Cost in Pence
6d per gallon									
Light Sussex	29 9	6 8	12 7	37 3	7 1	16 7	46 7	8 1	23 7
R I Reds	34 7	6 3	13 6	45 8	6 2	17 8	55 4	7 6	26 3
W Wyandottes	28 9	7 1	13 6	41 6	6 2	16 3	53 1	7 0	23 5
Average	31 3	6 9	13 5	41 0	6 5	16 8	49 8	7 9	25 5
3d per gallon									
Light Sussex	29 9	4 9	9 3	37 3	5 7	13 3	46 7	6 9	20 2
R I Reds	34 7	4 7	10 8	45 8	5 1	14 8	55 4	6 7	23 4
W Wyandottes	28 9	5 4	9 8	41 6	4 8	12 6	53 1	6 2	20 8
Average	31 3	5 1	10 0	41 0	5 0	13 5	49 8	6 7	20 9

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CONTEMPORARY AGRICULTURAL LAW.

I.—LEGISLATION.

THERE are several Acts of Parliament passed in 1930 which require notice as affecting agricultural interests.

The Finance Act, 1930 (20 & 21 Geo. 5, c. 28), by Section 27 provides that there shall be a quinquennial revaluation of all properties in respect of which income tax is chargeable under Schedules A and B, and accordingly the annual values of all such properties are to be determined afresh for the purpose of assessment for the year 1931–32 and for each fifth succeeding year of assessment in accordance with enactments and rules applicable to those Schedules, and the annual value of any property which has been adopted for the purpose of income tax under Schedules A and B for any year of assessment will be taken as the annual value of that property for the same purpose for the next year of assessment unless that year is a year of revaluation. By Section 28, in order to expedite valuations and assessments for years of revaluation, the provisions for assessment by assessors and for requiring delivery of statements of particulars required by the Income Tax Acts and all things necessary for determining annual values may be done as well at any time during the preparatory year as at any time during the year of revaluation.

The Housing Act, 1930 (20 & 21 Geo. 5, c. 39), in Part IV, deals with the provision of houses in rural districts and by Section 32 makes it the duty of every County Council as respect each rural district within the county to have constant regard to the housing conditions of persons of the working classes, including the extent of overcrowding and other unsatisfactory housing conditions, and the Council of every rural district is required in the year 1930 and thereafter at intervals not being less than one year, as the County Council may direct, to furnish to that Council such information with regard to such matters as the County Council may reasonably require to enable them to carry out their duties under this Section. By Section 33 the Council of any county may for the purpose of assisting the Council of any rural district within the county in performance of their re-housing duties agree with the District Council for the exercise by the County Council of all or any of the powers of the District Council in that respect. By Section 34 if a Rural District Council claim that any of the houses which they propose to provide are required for accommodation of the agricultural population of the district, the County Council, or in case of dispute between the County Council and the District Council, the Minister of Health, is to determine how many houses are so required, and thereupon the County Council are to undertake to make to the District Council in respect of each of the forty years next following the completion of the houses a contribution at the rate of £1 per house payable in respect of as many of the houses provided with approval of the Minister as are in that year occupied for a period or periods exceeding nine months by members of the agricultural population. For the purposes of this Section the expression " agricultural population " means persons whose employment or latest employment is or was employment in agriculture or in an industry mainly dependent upon agriculture and includes their dependants, and the expression " agriculture " includes dairy-farming and poultry-farming and the use of land as grazing, meadow, or pasture land, or orchard or osier land or woodland or for market gardens or nursery ground. By Section 35 powers are given to the County Council in the event of default of a Rural District Council to exercise their powers in these respects and to the Minister of Health in the event of default by a County Council.

The Road Traffic Act, 1930 (20 & 21 Geo. 5, c. 43), affects agriculturists who use motor tractors, for they are included under the classification of " motor vehicles " in Section 2 (1) (c) and are defined as mechanically propelled vehicles which are not constructed themselves to carry any load (other than water, fuel, accumulators and other equipment used for the purpose of propulsion, loose tools and loose equipment) and the weight of which unladen does not exceed seven tons and a quarter. The owner of a motor tractor is therefore subject to the provisions of the Act affecting motor vehicles generally, *e.g.* anyone driving the motor tractor on a road must hold a licence (Section 4), and if used on a road the user must be insured against third-party risks (Section 35). The number of trailers which may be drawn by a motor tractor on a road must not exceed one, if laden, or two, if unladen, but the word " trailer " does not include any agricultural vehicle not constructed to carry a load. Section 52 of the Act excludes the restrictions contained in Section 70 of the Highways Act, 1835, on the erection of machines and machinery within 25 yards of a highway from applying so as to prohibit any machines or mechanically propelled vehicles from being used for purposes connected with agriculture, forestry, building operations, or the repair, maintenance or construction of roads.

The Land Drainage Act, 1930 (20 & 21 Geo. 5, c. 44), is of considerable importance. Section 1 constitutes drainage districts consisting of the catchment areas of the various rivers and arterial drains mentioned in Part I of the First Schedule to the Act constituted under the Act, and any other drainage districts as may be so constituted, and provides for a Drainage

Board for each drainage district. Any drainage areas constituted under the Land Drainage Act, 1861, or any other enactments relating to the drainage of land, are to be deemed to have been constituted under the Act of 1930, and the Drainage Boards of such areas are to be treated as if they had been constituted under the Act as the Drainage Boards of the area. By Section 2 the Minister of Agriculture and Fisheries may, on the application of or after consultation with the Counties and County Boroughs concerned, by order direct that other areas may be added to the Schedule or may direct the removal of any area therefrom or that alteration may be made by the combination and re-grouping of catchment areas. By Section 3 the Drainage Board of a catchment area is to be called the Catchment Board and to consist of not more than thirty-one members as the Minister may direct. One member is to be appointed by the Minister, not less than two-thirds of the remaining members are to be appointed, whether from their own members or not, by the Councils of the Counties and County Boroughs whose area or any part of whose area is situate within the catchment area, and the residue of the members is to consist of persons appointed by the Minister after consultation with, and taking into consideration nominations by, the Internal Drainage Boards of internal drainage districts which are within the catchment area, to represent their Boards and that portion, if any, of the catchment area for which drainage boards might be, but have not been, constituted under the Act. Section 4 provides for the transfer of powers and duties to Catchment Boards and the reorganisation of Internal Drainage Boards and the constitution of new internal Drainage Districts and Drainage Boards by scheme of the Catchment Board subject to confirmation by the Minister. Maps must be prepared of each catchment area, and by Section 6 the powers conferred by the Act on Drainage Boards must, so far as the main river and its banks and the drainage works in connection with the main river are concerned, be exercisable only by the Catchment Board. By Section 7 a Catchment Board must exercise a general supervision with respect to the drainage of the catchment area over Internal Drainage Boards and districts, and may for the purpose of securing the efficient working and maintenance of existing drainage works give directions for the guidance of Internal Drainage Boards. By Section 9 it is the duty of every Catchment Board to take steps for the commutation of obligations imposed on persons by reason of tenure, custom, or prescription to do any work (whether by way of repairing of banks, maintaining of watercourses or otherwise) in connection with the main river. By Section 10, where any land in the catchment area is injured or likely to be injured by flooding or inadequate drainage which might be remedied wholly or partially by the exercise of drainage powers vested in any Internal Drainage Board, and not being exercised by it, the Catchment Board for the district may exercise all or any of those powers. On the application of the Council of any county or county borough the whole or any part of the area of which is within the catchment area, a Catchment Board may direct that the powers of this Section shall, as respects that land, be exercisable by the County or County Borough Council instead of by the Board. Section 17 enables the Minister by order to constitute Drainage Boards and Drainage Districts outside catchment areas. Under Section 20 the expenses of Catchment Boards, so far as not otherwise met, are to be met by County and County Borough Councils in whose districts the catchment area is comprised wholly or in part. By Section 21 contributions may be required from Internal Drainage Boards towards the expenses of Catchment Boards. By Section 24 the expenses under this or any other Act of a Drainage Board other than a Catchment Board (including in the case of an Internal Drainage Board any contribution made by the Board toward the expenses of the Catchment Board) shall, so far as they are not met by contributions from a Catchment Board, be raised by means of a drainage rate, which may be either (*a*) an owner's drainage rate for the purpose of defraying expenses incurred in connection with new works or the improvement of existing works and charges in respect of contributions to be made by the Board to a Catchment Board; or (*b*) an occupier's drainage rate raised for the purpose of defraying any other expenses or charges. The rate must be assessed at a uniform amount per pound, in the case of agricultural land on the annual value of the land, and in the case of any other land on one-third of the annual value thereof. A Drainage Board, after consultation, in the case of an Internal Drainage Board, with the Catchment Board, may determine that no rates shall be levied by them on the occupiers of hereditaments in any portion of the district which in their opinion, by reason of its height above sea level or for any other reason, ought to be wholly exempt from rating. The expression "agricultural land" in this part of the Act means any land used as arable, meadow or pasture ground only, land used for a plantation or wood or for the growth of saleable underwood, land exceeding one quarter of an acre used for the purpose of poultry-farming, market gardens, nursery grounds, orchards or allotments, including allotment gardens within the meaning of the Allotments Act, 1922, but does not include land occupied together with a house as a park, gardens (other than as aforesaid), pleasure grounds, or land kept or preserved mainly or exclusively for purposes of sport or recreation, or land used as a race-course. "Annual value," in relation to any land, means the gross annual value of the land as determined for income tax under Schedule A. Provision is made for appeal against a drainage rate to Quarter Sessions. By Section 32 local authorities may contribute to the expenses of drainage works desirable in the interests of public health of any area in their district or for the protection or better enjoyment of any highway. Under Section 35, where any water-course is in such a condition that the proper flow of water is impeded, it is the duty of the person having control of the water-course, or the part thereof where the impediment occurs, to put the water-course in proper order if by reason of the impediment agricultural land belonging or in the occupation of some other person is injured or in danger of being injured by water, and a Drainage Board within whose district the water-course is situated may serve on the person by whose act or default the flow of water is impeded a notice requiring him to put the water-course in proper order, and it will be his duty within two months to comply with the requirements of the notice. By Section 52 a County or County Borough Council, if of opinion that any land within the county or borough (whether within or not within a catchment area) is capable of improvement by drainage works but that the case cannot be met by the constitution of a drainage district under the Act, and that the expenses of executing and maintaining the works will not exceed the increase in the value of the land arising therefrom, may in accordance with the provisions of a scheme enter on the lands and execute such drainage works as appear to them desirable, but the draft scheme must show that the estimated cost of the execution of the works will not exceed £5 for each acre in the area to be improved, or £5,000 in all. Any expenses incurred not exceeding the maximum amount will be recoverable as a civil debt from the several owners of the lands to which the scheme relates, according to an apportionment in the scheme, but the owner may require the sum payable to be recoverable by means of a rate to be made and levied subject to the like provisions as are applicable in the case of a private improvement rate of a local authority under the Public Health Act, 1875. Under Section 53 a County or County Borough Council may delegate to the Agricultural Committee of the Council any of their powers and duties under the Act (other than the power to levy a rate or borrow money). By Section 57, where by reason of the neglect of the occupier of any land to maintain the banks or to cleanse and scour the channels of water-courses passing through or adjoining his lands, injury is caused to any other land, the owner or occupier of that land may serve notice on the said occupier requiring him, as the case may be, to maintain the banks or cleanse or scour the channels. If the occupier on whom a notice has been duly served fails within two months after the service to comply with the requirements of the notice, the person by whom the notice is served may execute the necessary works for maintaining the banks or cleansing or scouring the channels and the expenses in so doing will be recoverable from the occupier in default. Under Section 58, if any person interested in any land desires to drain it and for that purpose considers it necessary that new drains should be opened through land belonging to another person or that existing drains in such land should be cleansed, widened, straightened or otherwise improved, he may apply to that other person for leave to make such drains or improvements of drains through or on the other land. Rules are laid down in the Fifth Schedule for subsequent procedure when the adjoining owner assents to the application and when he dissents. In the latter case the matter may be referred to two or more justices or to arbitration. Section 79 provides that the Drainage Board of the Thames Catchment Area shall be the Conservators of the River Thames.

The Reservoirs (Safety Provisions) Act, 1930 (20 & 21 Geo. 5, c. 51), makes provision for precautions to be observed in the construction of large reservoirs (*i.e.* designed to hold more than five million gallons of water above the natural level of adjoining land), which may only be constructed under the design and supervision of a qualified civil engineer. It also provides for periodical inspection of any large reservoir, whether constructed before or after the commencement of the Act, in which water is stored. Courts of Quarter Sessions are, by Section 5, given authority on the application of a County or District Council or any person resident or interested in property in any area likely to be affected by the escape of water from a large reservoir, to make such order in relation to the reservoir as seems to them to be required in the interests of safety.

II.—Decisions of the Courts.

1. *Labour.*—In *Hughes* v. *Davies* (94 J.P. 48 ; 28 L.G.R. 11) a farmer employed a worker in agriculture upon terms which included the provision of washing and mending, which was reckoned at 2*s.* a week. These were not among the benefits allowed in the county to be reckoned under the Agricultural Wages (Regulations) Act, 1924, and the orders made thereunder as payment of wages in lieu of cash. The justices before whom the case was brought held that no offence had been committed, or alternatively that it was trivial, and refused to make an order for payment of arrears of wages. The King's Bench Divisional Court held (1) that in view of the words in the Act

and orders made thereunder it was quite impossible to support the finding that no offence had been committed; (2) that the justices were not entitled to hold that the offence was trivial as it was entirely subversive of the purpose of the Act; and (3) that they were bound in any case to make an order for payment of arrears.

There is only one case relating to agricultural work under the Workmen's Compensation Act. In the Irish case of *Loughrey* v. *Morrison* ([1930] Ir. R. 93) a man employed by a farmer to the general work on the farm was working in a potato field, grubbing potatoes. With the assistance of another man he was using a grubber, being a machine drawn by two horses. Without his employer's permission he had taken his employer's gun from a storeroom in a house on the farm, and he fired at a crow which flew down. He then placed the gun on the grubber and the gun shortly afterwards went off, causing injuries from which he died. His dependants claimed compensation under the Act. Evidence was given that a number of crows were in the field earlier in the day and that crows would injure the potatoes. The employer had a licence for the gun enabling him to shoot over his own land. He did not use the gun himself and had no ammunition. He never gave the workman permission to use the gun and the workman had no licence. The Circuit Court Judge found that although the workman had no authority to bring the gun to the field he was not expressly forbidden to do so, and as the workman was acting for the protection of the employer's property and in a manner that might reasonably have been contemplated by the employer, the accident arose out of the employment, and the claim for compensation was allowed. On appeal it was held by the High Court, reversing the decision of the County Court Judge, that the act of the workman in carrying a loaded gun was entirely different in kind from the class of act which he was employed to do; that the risk occasioned by so doing was not a risk incidental to his employment, and the workman was not acting in a manner which was reasonably within the contemplation of the parties when the contract of service was made, and accordingly that the accident did not arise out of the employment, and the application for compensation should have been refused.

2. *Landlord and Tenant.—Re Joel's Lease, Berwick* v. *Baird* ([1930] 2 Ch. 359; 99 L.J. Ch. 529) is an important case under the Agricultural Holdings Act, 1923. The question which arose was whether a stud farm was an "agricultural holding" within the meaning of that Act. By a lease dated November 7, 1924, the owner, S. B. Joel, demised to the defendant lands known as the Polegate Stud Farm for a term of five years from

September 29, 1924, at an annual rent of £350. The farm had been used for breeding racehorses and comprised various horse-boxes and buildings for stud purposes and grass paddocks, most of which included a loose box. There was no arable land. The lease contained a covenant that the premises demised should not be used otherwise than as a stud farm. Mr. S. B. Joel sold the property to the plaintiff, who required the defendant to give up possession at the expiration of the lease on September 29, 1929. The defendant refused to give up possession, contending that the farm was an agricultural holding and that as Section 23 of the Act in the case of such property requires a twelve months' notice to terminate a lease, he was not obliged to quit as no notice had been given. Under Section 57 of the Act a holding to come within the Act must be "wholly agricultural or wholly pastoral, or in part agricultural and as to the residue pastoral, or in whole or in part cultivated as a market garden." It was held that the main purpose of the stud farm being the breeding of racehorses, the mere fact that it included fields of grass was not conclusive and did not establish that the holding was "wholly pastoral," and accordingly that it was not an "agricultural holding" within the meaning of the Act, and that the defendant could not therefore take advantage of Section 23 of the Act.

In *Peech* v. *Best* ([1931] I.K.B. 1; 99 L.J.K.B. 537) the defendant, a farmer, let to the plaintiff the exclusive right of shooting and sporting over his farm for fourteen years from March 25, 1920, at a yearly rent of £60, payable in advance, subject to the defendant's rights under the Ground Game Act, 1880. The defendant covenanted that the plaintiff should peaceably and quietly have and enjoy the said rights without lawful interruption by the defendant or any person claiming through him, and that he and his workmen would take necessary and reasonable care to preserve nests, eggs and young of game birds. In 1929 he sold 12 acres of the land affected by the lease to a racehorse trainer, who intended to build a number of loose boxes for horses on the land, together with cottages for a caretaker and stable hands. The plaintiff brought an action against the defendant for damages for infringement of his rights under the lease. The action was tried at the Winchester Assizes and the judge found there had been a substantial interference with the plaintiff's shooting and sporting rights and assessed the damages at £100. The Court of Appeal affirmed this decision, holding that the shooting and sporting rights granted were in the nature of a *Profit à prendre*, and that the act of the defendant in selling part of the land for erection of racing stables, etc., was a wrongful interference with the plaintiff's rights and a derogation from the grant.

Fairclough & Sons v. *Berliner* ([1931] 1 Ch. 60; 100 L.J. Ch. 29) was a case in which property had been let on lease to two joint tenants, who neglected to perform the repairing covenants of the lease, whereupon the lessors took proceedings to forfeit the lease and recover possession of the property under the provision for re-entry on breach of covenant. One of the two lessees applied to the Court to exercise the power given to it by Section 146 of the Law of Property Act, 1925, to relieve against forfeiture on terms of making good the breach of covenant. The other lessee, however, refused to join in the application and said he did not wish the lease to be continued. The Court held that it could not grant relief on the application of one only of two joint lessees. To do so might be a hardship on the other lessee, as he would continue to be liable under the onerous covenants of the lease until its termination.

3. *Stock and Crops.*—*Dobell & Co.* v. *Barber & Garrett* (100 L.J.K.B. 65) is an important case under the Fertilisers and Feeding Stuffs Act, 1926. The plaintiffs and defendants were merchants who dealt largely in cattle foods. In September, 1929, the defendants sold to the plaintiffs a quantity of linseed cattle cake. A bank had a lien on the goods and ordered the defendants to sell them. Cattle belonging to purchasers from the plaintiffs which ate the linseed cake became seriously ill, and it was found that the cake contained castor seed mixed with the linseed, and the cattle had consequently suffered from castor poisoning. The plaintiffs had to pay those who bought from them damages for the injuries to the cattle, and they claimed a declaration that on the sale of the cake by the defendants a warranty was implied under Section 2, Sub-section 2, of the Fertilisers and Feeding Stuffs Act, 1926, that the cake did not contain castor seed and was fit for food for cattle, and they also claimed damages for breach of the statutory warranty. The cake came from India, and as there had been trouble in the trade with regard to cake of Indian manufacture, the defendants at the time of sale were unwilling to give any explicit warranties. The material words of the contract of sale were, "The cake is sold *tel quel* in all respects, but Ormerod & Fourweather's analysis, for which sellers accept no responsibility, is . . . castor free." It was held by the Court of Appeal (1) that the linseed cake was sold by the defendants to the plaintiffs for use as food for cattle within the meaning of Section 2, Sub-section 2, of the Fertilisers and Feeding Stuffs Act, 1926, and was therefore subject to the warranty implied by that Sub-section; (2) that the sellers were not protected by Section 24, which excludes the application of the Act to the sale of an article used as a food for cattle, when the sale is in exercise of a statutory power to enforce a right or to satisfy a claim in lien, or where the sale is made by a

sheriff, as the sale was not in exercise of any statutory right, for the bank's power of sale was not statutory; (3) that the plaintiffs were entitled to include in their damages for breach of warranty the sums which they themselves had had to pay the sub-purchasers.

4. *Rates and Taxes.*—There have been two important cases on the question of the rating of sporting rights over agricultural land. In *Towler* v. *Thetford Rural Council* (99 L.J.K.B. 258) the appellant owned 3,000 acres of land. He let 2,000 acres to tenant farmers, reserving the sporting rights; 700 acres were waste land and he farmed 300 acres himself. He let the sporting rights over the whole 3,000 acres under an agreement contained in correspondence with the shooting tenant, but there was no grant by deed of the sporting rights. The appellant was rated separately on the sporting rights so let and appealed from an order of the justices directing the issue of a distress warrant in respect of those rates. It was held that the appellant was not rateable in respect of the sporting rights under the Rating Act, 1874, as in respect of the 700 and 300 acres there was no severance of the rights from the ownership, and in respect of the 2,000 acres, though there had been a severance of the sporting rights there had been no letting by lease as required by the Act.

This case is a little difficult to reconcile with the subsequent case of *Hastings (Lord)* v. *Walsingham Rural Council Revenue Officer* (1930, 2 K.B. 278; 99 L.J.K.B. 385), which arose in consequence of the de-rating of agricultural land effected by Section 67 of the Local Government Act, 1929. Lord Hastings was the owner of agricultural land let to various tenants under leases in which the sporting rights were reserved to the owner, who did not let them but exercised them himself. In the valuation list made in accordance with Part II of the Rating and Valuation Act, 1928, Lord Hastings was assessed as the owner and occupier of property and separately valued and described as "sporting rights over 590 acres" and the rateable value was entered as £44. It was argued on his behalf that agricultural land having now ceased to have a rateable value when sporting rights, although severed from the occupation, are not separately let, they form a part of the agricultural land, and as the whole has ceased to be rateable it follows that part has also ceased to be rateable. It was however held that when rights of sporting over agricultural land are severed from the occupation of the land, but are not let, their value is not to be included for purposes of de-rating with that of the agricultural land nor inserted in the "special list" under the Rating and Valuation (Apportionment) Act, 1928. Such rights of sporting are by the Rating Act, 1874, constituted a separate incorporeal hereditament and do not fall within the definition of "agricultural land" in the Act of 1928. Notwithstanding Section 6 of the Rating Act, 1874, which directs that sporting rights severed from the occupation of the land and not let are not to be separately assessed but to be included in the rateable value of the land (which provision, though not repealed, was to this extent held by the Court to have been rendered obsolete by the Act of 1928), the right of sporting over agricultural land when severed should be separately entered and assessed in the Valuation List. It was further suggested by the Lord Chief Justice that Section 67 of the Local Government Act, 1929, which provides that no particulars with regard to agricultural land shall be entered in any subsequent valuation list, does not preclude the insertion of sufficient particulars to identify agricultural land over which sporting rights are exercised. The same learned judge in the course of his judgment said: "It is not suggested that the sporting rights are the subject of rating when they are not severed from the occupation of the land," so it would seem that an owner of land is not to be assessed in respect of sporting rights exercised by himself over land in his own occupation.

There have been a number of decisions on the subject of de-rating, mostly in respect of industrial hereditaments, but including some as to agricultural land, more however in Scotland than in England. A piggery consisting of buildings for the pigs, with 3·85 acres of land attached, which was used for exercising the pigs, who ate certain grasses and roots on the land, has been held in *Inland Revenue* v. *Renfrewshire Assessor* (1930, S.C. 345) to be agricultural and entitled to be de-rated. But a house of seven rooms, a small garden and between four or five acres of grassland occupied by the Chief Constable of a county as his ordinary residence, who kept a stock of sheep on the land, was held not agricultural land and not subject to de-rating, as being used for "agricultural or pastoral purposes only" in *Inland Revenue* v. *Banff Assessor and Davies* (1930 S.C. 552).

In *Lanarkshire Assessor and Inland Revenue* v. *Findlay Brothers* (1930 S.C. 407) a dwelling-house and garden occupied by one of the partners, situated in a nursery extending to 13 acres, of which 6 acres were covered with glass houses, was held not to be *unum quid* with the nursery and not entitled to de-rating.

So too it was held in *Inland Revenue* v. *Cromartie* (*Countess*) (1930 S.C. 404) that land let to a golf club at a rent of £44 plus £30 rent in respect of grazing rights was not to be de-rated.

In *Inland Revenue* v. *Assessor for Ross & Cromartie & Snow Belt Farms, Ltd.* (1930 S.C. 487) land and buildings devoted to the breeding and rearing of silver foxes for the sake of their pelts was held not to be "agricultural lands and heritages" within the meaning of Section 9, Sub-section 11, of the Rating and Valuation (Apportionment) Act, 1928, in respect that the rearing of foxes was not a use of the subjects for "agricultural or pastoral purposes."

In *Inland Revenue Officer* v. *Bourne and Stamford Assessment Committee* (74 Sol. J. 155) the learned Recorder of Stamford held that allotment gardens cultivated wholly or mainly to grow fruit and vegetables for consumption by the occupiers and their families were agricultural hereditaments and entitled to de-rating.

5. *Miscellaneous.*—In *Callard* v. *Beeney* (1930, 1 K.B. 353; 99 L J.K.B. 133) the plaintiff in 1923 conveyed to the defendant's predecessor in title a farm of 70 acres, part of a property of 102 acres. The deed of conveyance contained the words "together also with a right of way 14 feet wide, as shown on the said plan marked A, in and over the portion of the field No. 171, belonging to the vendor, for the purpose of access to and from the point marked X in the said plan to the field No. 169, such right of way passing between the ponds, as shown on the said plans." The question arose whether the right of way was available for use by the defendant for driving his cows to and from any other part of his land or only to and from field No. 169. It was held that the dominant tenement was the whole of the lands conveyed by the deed in 1923 and not only the field No. 169, and that the right of way granted was available for the use in respect of any of those lands.

The case of *Green* v. *Matthews & Co.* (46 Times L.R. 206) dealt with the rights of a riparian owner, and it was held that a person cannot set up a right, either by prescription or under the doctrine of lost grant, to cause sewage or trade refuse to fall or flow into a stream or water-course and thereby to pollute it when the right claimed would be in contravention of the Rivers Pollution Act, 1876.

Mourton v. *Poulter* (1930, 2 K.B. 183; 99 L.J.K.B. 289) raised a question as to liability for accident caused by the felling of a tree. The defendant was employed as an independent contractor to fell a tree on a piece of unfenced open land. This land had been used as a playground by the children of the neighbourhood, though they had no right to go there and were driven off it from time to time. On August 6, 1929, the plaintiff, a child aged ten, with other children, was playing near the tree and was injured by its fall. He sued by his father as next friend for damages for the personal injuries caused by him and for loss and expense incurred. The County Court Judge, before whom the matter first came, found that the infant plaintiff was a trespasser but that the defendant at the time the tree was about to fall knew that there were children in the neighbourhood and was negligent in giving them no warning of the impending fall. Inasmuch, however, as the infant plaintiff was a trespasser, the Judge held that he was bound to enter judgment for the defendant. The Divisional Court reversed this decision, holding that the plaintiff was entitled to recover damages on the ground that a person who does a dangerous act on land which alters the condition of the land, such as the felling of a tree, owes a duty to a person on the land who is visible to him, even though that person is a trespasser, to give warning before beginning the dangerous act.

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AGRICULTURAL STATISTICS, 1930.

(The Society is again indebted to the Ministry of Agriculture and Fisheries for its kindness in supplying, for inclusion in the *Journal*, the usual detailed and comparative tables of the latest agricultural statistics. For fuller information than can be given in the limited space available here, the Department's own admirable series of Reports on Agricultural Statistics, together with the weekly "Agricultural Market Report," should, of course, be consulted.—ED.)

ACREAGE.

FOLLOWING the reduction of some 68,000 acres in the area under crops and grass (excluding rough grazings) in England and Wales between 1928 and 1929, a further loss of 59,000 acres (0·2 per cent.) was revealed from the tabulation of the returns made by the occupiers of agricultural holdings above one acre in extent on June 4, 1930 (Table I). Since the end of the war, the area under crops and grass has fallen by over 1,350,000 acres, while as compared with the average of 1912 to 1914, the 1930 figure of 25,379,000 acres is close on 1,760,000 acres (6·5 per cent.) less. The area under rough grazings continued to increase, the latest total amounting to 5,293,000 acres, or 10,000 acres (0·2 per cent.) more than in 1929. Even so, the rate of expansion of rough grazing land is rapidly slowing up, since the additional area in 1928 was over 50,000 acres, and in 1929 28,000 acres. The total area in use for agriculture diminished, therefore, by 49,000 acres, the latest figure being 30,672,000 acres.

Arable land occupied 9,834,000 acres as against 9,948,000 acres in 1929, but once again the decline (114,000 acres or 1·1 per cent.) was appreciably less than that recorded during the preceding three years. As compared with the pre-war arable acreage of 11,131,000 acres, the latest figures show a drop of

1,279,000 acres or rather over 11·5 per cent. As regards permanent grass, the area expanded by about 55,000 acres (0·4 per cent.) to a total of 15,545,000 acres, which is proportionately slightly less than the increase recorded in 1929. While the 1930 acreage returns do not reveal any violent change in the ratio as between arable land and the total area under cultivation, there is evidence that the slight falling off noticeable in recent years is continuing in much the same degree, arable land accounting for about 38·5 per cent. of the total area cultivated in 1930 as against 39 per cent. in 1929, 40 per cent. in 1928, and 41 per cent. during 1912–14.

Coming to the individual crops, the loss of 66,000 acres in the area sown to *Wheat* between 1928 and 1929 was partially recovered in the following year, the acreage returned being 16,000 acres (1·2 per cent.) more at 1,346,000 acres. At the end of the war, the wheat acreage was as high as 2,557,000 acres but two consecutive reductions brought the total to 1,875,000 acres in 1920. The ensuing year a slight and temporary recovery was recorded, only to be followed by persistent and comparatively severe setbacks until 1926. In both 1926 and 1927, the acreage advanced somewhat, but further losses in the next two years brought the acreage to 1,330,000 acres—the lowest ever recorded. The expansion in the period under review was spread over more than half the counties of England and Wales, mainly situated in North-eastern, Eastern, East Midland and Northern districts. The area under wheat in Norfolk was nearly 5,000 acres more than in 1929, while Lincolnshire regained nearly 3,000 acres. As regards Yorkshire, there was an increase of about 6,000 acres in the North and West Ridings combined, but the area in the East Riding was 1,400 acres less.

The decline in *Barley* growing received additional impetus in 1930, the total area amounting to only 1,026,000 acres, or 94,000 acres (8·4 per cent.) less than in the preceding year, the latest figure being the lowest recorded during the present century. As compared with the pre-war average, barley now occupies about 480,000 acres less—a drop of over 30 per cent. Since the crop occupied round about 1,700,000 acres during the early part of the century, the shrinkage up to date has amounted to 700,000 acres altogether, or at the rate of over 20,000 acres each year on average. The decline in 1930 was general throughout England and Wales. The area in Norfolk fell by 13,000 acres, in Yorkshire by 9,000 acres and in Lincolnshire by 10,000 acres, while Essex and Suffolk were 7,000 and 11,000 acres respectively down on the year.

It will be recalled that in 1929, the area sown to *Oats* showed the substantial increase of 91,000 acres. The greater part of this, however, was lost in 1930, the area falling by 81,000 acres

(4·4 per cent.) to 1,773,000 acres. The highest figure recorded during the past 30 years was the 2,780,000 acres of 1918, as compared with which the latest total is over 1,000,000 acres (35 per cent.) less, while the average of 1912–14 was 200,000 acres (10 per cent.) greater than at the present time.

Taking the three main cereal crops together, the acreage sown in 1930 totalled 4,145,000 acres as against 4,304,000 acres in 1929—a decrease of 159,000 (3·7 per cent.). The corresponding figures for 1918 and 1912–14 were 6,838,000 acres and 5,290,000 acres respectively.

Whereas *Mixed Corn* occupied over 19,000 acres more in 1929 than in 1928, the acreage during the period under review declined by about 9,000 acres (6·5 per cent.) to 131,300 acres. *Rye*, on the other hand, showed an advance of close on 10,000 acres (28·8 per cent.) which followed a smaller increase of 4,200 acres between 1928 and 1929.

Beans more than made good the loss sustained in 1929, the area in 1930 showing an increase of 19,000 acres (12 per cent.) to 176,000 acres. It was, nevertheless, well below any figure recorded between 1900 and 1927, the lowest acreage in this period being the 191,000 acres of 1925. The augmented acreage was mainly in the area to be harvested as corn, which rose by 18,000 acres to 162,000 acres, beans to be picked green occupying 1,000 acres more at 13,000 acres. *Peas* also were more extensively grown, the area being 3,000 acres greater at 136,000 acres. Since 1928, the amount of land devoted to the crop has risen by 22,000 acres, but is still some way below the levels of the years immediately subsequent to the war. Of the increase recorded in 1930, the green variety accounted for over 2,000 acres and peas to be harvested as corn 900 acres.

Taken together, the two pulse crops were sown on 312,000 acres, or 22,000 acres (8 per cent.) more than in 1929, but some 140,000 acres (32 per cent.) less than in 1912-14.

In my article in last year's *Journal*, attention was drawn to the fact that since the war, the *Potato* acreage had remained substantially above the level of 1912–14. During the year now under review, however, an exceedingly heavy reduction was recorded, the acreage falling by as much as 96,000 acres (18·5 per cent.) to 422,600 acres, at which figure the total was lower than in any year since 1910. As compared with the pre-war average, the extent of land devoted to potatoes was 33,000 acres (7 per cent.) less and was 210,000 acres (33 per cent.) less than the peak figure of 634,000 acres of 1918. Reductions in 1930 were returned from practically all counties, the drop in Lincolnshire amounting to 24,000 acres, in Yorkshire 11,000 acres, Lancashire 6,000 acres, and the Isle of Ely 7,000 acres, whereas in 1929, Lincolnshire had grown 9,000 acres more than in 1928, the Isle of Ely 4,000 acres more and Yorkshire 3,800 acres more.

Following the set-back of over 20,000 acres in the area under *Turnips and Swedes* between 1928 and 1929, a further substantial loss was recorded in 1930, the acreage totalling 671,000 acres as against 699,000 acres—a drop of 28,000 acres or 4 per cent., the latest figure being the lowest recorded in any year during the present century. The acreage is now little more than half what it was thirty years ago. Apart from the North-western counties, where increases were usually returned, the figures showed a shrinkage in almost every other part of the country, the heaviest individual drop being the 6,000 acres in Norfolk.

Mangolds also occupied a smaller acreage, a decline of 10,700 acres (3·6 per cent.) being recorded. As with turnips and swedes, the latest total of 288,500 acres is the lowest to be returned this century.

The total extent of land utilised for the production of the principal fodder roots amounted in 1930 to 960,000 acres, as compared with 999,000 acres in 1929, 1,021,000 acres in 1928 and more than 1,500,000 acres in pre-war years.

Over the period 1921–29 the acreage of *Hops* showed little variation, ranging from about 23,000 to 26,000 acres. During the year under review, however, a reduction of about 4,000 acres (17 per cent.) occurred and the total of 20,000 acres was the smallest recorded since the 16,700 acres of 1919. The average for 1912–14 was about 35,700 acres, so that the latest figure is about 15,700 acres (44 per cent.) less. All the principal hop-growing areas returned smaller acreages, Kent showing a drop of 3,000 acres (21 per cent.) and Sussex 460 acres (also 21 per cent.). Of the total area cultivated 11,820 acres (59·1 per cent.) were in Kent, 3,690 acres (18·4 per cent.) in Hereford, 1,730 acres (8·6 per cent.) in Worcester, and 1,680 acres (8·4 per cent.) in Sussex.

The acreage of *Clover and Rotation Grasses* showed an increase of 55,000 acres (2·3 per cent.) to 2,424,000 acres, a drop of 15,000 acres in the area for grazing being more than counterbalanced by a rise of 70,000 acres in the area cut for hay.

Following an increase of about 30 per cent. in the amount of land devoted to *Sugar Beet* between 1928 and 1929, the figures for June 1930 reveal a further heavy addition, there being an increase of 50 per cent. on the year, the total acreage amounting to about 348,000 acres, as compared with 231,000 acres in the preceding year. The crop expanded steadily up to 1927, but in 1928 a drop of 50,000 acres was recorded. This loss was almost made good in 1929 and with the latest advance the present acreage is easily the largest yet reached. Of the extra 117,000 acres, the Eastern and North-eastern counties accounted for 93,000 acres, the largest individual increases

TABLE I.—Acreage under Crops and Grass *and* Numbers of Live Stock *on holdings above one acre in extent as returned on 4th June,* 1930, *and 4th June,* 1929, *in England and Wales.*

Distribution	1930 [1]	1929	Increase (+) or Decrease (—)
	Acres	Acres	Acres
Total Acreage under Crops and Grass [3]	25,379,000	25,438,000	— 59,000
Arable Land	9,834,000	9,948,000	—114,000
Permanent Grass for Hay	5,051,000	4,696,000	+355,000
„ „ not for Hay	10,494,000	10,794,000	—300,000
Rough Grazings	5,293,000	5,283,000	+ 10,000
Wheat	1,346,000	1,330,000	+ 16,000
Barley	1,026,000	1,120,000	— 94,000
Oats	1,773,000	1,854,000	— 81,000
Mixed Corn	131,300	140,400	— 9,100
Rye	44,300	34,400	+ 9,900
Beans	175,700	157,000	+ 18,700
Peas	135,700	132,500	+ 3,200
Potatoes	422,600	518,800	— 96,200
Turnips and Swedes	671,300	699,400	— 28,100
Mangold	288,500	299,200	— 10,700
Sugar Beet	346,700	229,900	+116,800
Cabbage for Fodder, Kohl Rabi and Rape	134,300	124,700	+ 9,600
Vetches or Tares	74,600	67,900	+ 6,700
Lucerne	39,800	35,800	+ 4,000
Hops	20,000	24,000	— 4,000
Small Fruit	66,200	64,900	+ 1,300
Orchards	247,000	248,400	— 1,400
Clover, Sainfoin and Grasses under rotation for Hay	1,594,000	1,524,000	+ 70,000
Clover, Sainfoin and Grasses under rotation not for Hay	830,000	845,000	— 15,000
Bare Fallow	204,800	325,400	— 30,600
	No.	No.	No.
Horses used for Agriculture [2]	682,600	706,800	— 24,200
Unbroken Horses [4] One year and above	89,300	92,100	— 2,800
Unbroken Horses [4] Under one year	37,900	37,600	+ 300
Other Horses on Agricultural Holdings	151,300	162,800	— 11,500
TOTAL HORSES	961,100	999,300	— 38,200
Cows and Heifers in Milk	2,028,600	2,054,100	— 25,500
Cows in Calf but not in Milk	289,000	293,700	— 4,700
Heifers in Calf	352,500	364,800	— 12,300
Other Cattle Two years old and above	972,900	990,200	— 26,300
Other Cattle One year and under two	1,116,700	1,143,600	— 26,900
Other Cattle Under one year	1,086,300	1,102,200	— 15,900
TOTAL OF CATTLE	5,846,000	5,957,600	—111,600
Ewes kept for Breeding	6,806,000	6,717,300	+ 88,700
Other Sheep One year and above	2,453,300	2,454,000	— 700
Other Sheep Under one year	7,069,300	6,934,200	+135,100
TOTAL OF SHEEP	16,328 600	16,105,500	+223,100
Sows kept for Breeding	315,000	307,100	+ 7,900
Other Pigs	1,990,700	2,059,400	— 68,700
TOTAL OF PIGS	2,305,700	2,366,500	— 60,800

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[1] Subject to revision.
[2] Including Mares kept for Breeding.
[3] Not including Rough Grazings.
[4] Including Stallions.

being in Lincolnshire with 28,000 acres more, Norfolk with 21,000 acres, Suffolk with 13,000 acres and the Isle of Ely with an extra 12,000 acres. As compared with 1929 the areas under sugar beet in each of the principal beet-growing counties expressed as a percentage of the total area under crops and grass in the county show some striking changes as follows: Norfolk 7·4 as against 5·3; Suffolk 7·0 as against 5·2; Lincolnshire 4·1 as against 2·2; and Ely 15·2 as against 9·4, while the proportion in Yorkshire rose slightly from 0·5 per cent. to 0·8 per cent.

Of the remaining crops, *Lucerne* more than recovered the loss sustained in 1929, the area being 4,000 acres (11·2 per cent.) higher on the year, while 6,700 acres (9·9 per cent.) more *Vetches and Tares* were grown. *Mustard for Seed* also showed a 12·6 per cent. advance to 26,000 acres. Among the vegetables, *Brussels Sprouts* were produced on a slightly smaller acreage, while *Cabbage* fell by 1,600 acres down to 30,800 acres. There was, however, an increase of 1,000 acres (7·2 per cent.) in the area devoted to *Cauliflowers* and *Broccoli*. Of the root crops, *Carrots* and *Onions* showed decreases of 1,200 and 400 acres respectively.

The acreage under *Fruit* was practically unchanged, a loss of 1,400 acres in orchard land being off-set by an increase of 1,300 acres in small fruit. Orchards in the West of England were smaller as a rule, reductions of from 500 to 600 acres being returned from Devon, Gloucester and Somerset, but 900 acres were added to the Kent acreage and 648 acres more in Hereford.

LIVE STOCK.

The steady and persistent decline in the number of *Horses* on agricultural holdings which had been recorded during the previous nine years showed no signs of diminishing during 1930, the total being 38,000 (3·8 per cent.) fewer at 961,100. At the end of the war, the figure stood at close on 1,400,000 and five years later at nearly 1,300,000, while in 1928 the total had shrunk to less than 1,050,000. The drop in the number of horses used for agricultural purposes amounted to 24,200 (3·4 per cent.) or about the same as in the preceding year. Of the unbroken horses those aged one year and over were fewer by 2,800 (3 per cent.), but in the case of foals, a slight increase of 300 to 38,000 was recorded, which compares with a decline of over 2,000 in 1928 and about 700 in 1929. Proportionately, "other" horses suffered by far the heaviest individual fall, the 151,000 returned being 11,500 (7·1 per cent.) fewer than on June 4, 1929.

For the third year in succession a reduction was revealed in the number of *Cattle* on agricultural holdings, the 5,846,000 returned representing a drop of over 110,000 (about 2 per cent.) from the 1929 total. During the last twenty years, the numbers of cattle seem to have fluctuated within narrow limits in cycles of five years; thus from 1910 to 1914, the total was round about 5,800,000; from 1915 to 1919 about 6,200,000; from 1920 to 1924 about 5,700,000; and from 1925 to 1929 about 6,100,000. As compared with the average of 1912–14, the latest figure is roughly 35,000 (0·6 per cent.) greater. As was the case in 1929, the falling off was relatively the smallest in the dairy herds, where the reduction amounted to 42,500 or 1·5 per cent. Of this shrinkage, cows and heifers in milk were responsible for 25,500 (1·2 per cent.), in-calf cows 4,700 (1·6 per cent.), and in-calf heifers 12,300 (3·4 per cent). "Other" cattle were fewer by about 60,000 (nearly 2 per cent.), those aged two years and over being reduced by 26,000 (2·6 per cent.), those of one year and under two by 27,000 (2·4 per cent.), and cattle under one year old by 16,000 (1·4 per cent.).

Between June 1927 and June 1929 the number of *Sheep* in England and Wales fell by close on 1,000,000, but during the year under review a fairly substantial recovery took place, the 16,329,000 recorded being 223,000 (1·4 per cent.) more than twelve months earlier but still 1,152,000 (6·6 per cent.) below the pre-war strength of the flocks. The latest position is satisfactory as compared with several recent years, for between 1920 and 1923 the total number of sheep was consistently below 14,000,000. Whereas in 1929 breeding ewes suffered a reduction of 129,700, in 1930 an increase of 88,700 (1·3 per cent.) was recorded, the greater part of which was contributed by the Northern and Western Divisions and by Wales. "Other" sheep under one year old showed an advance of 135,100 (1·9 per cent.) but those of one year and over were practically unchanged.

It will be recalled that in 1929 a remarkably heavy drop occurred in the number of *Pigs* in the country, following an equally substantial rise in the preceding year. During 1930, the decline continued, but the downward movement was much less pronounced, the total of 2,306,000 being 61,000 (2·6 per cent.) fewer on the twelve months. The pig population is now about 50,000 (2·3 per cent.) short of that recorded just before the war, but still in excess of the figures returned between 1917 and 1920. Breeding sows rose by about 8,000 (2·6 per cent.), the increase being mainly in the North and in Wales, although also affecting some of the West Midland and South-western counties; the remaining Divisions returned lower numbers. Other classes of pigs showed a loss of 69,000 (3·3 per cent.) to 1,991,000.

While statistics of the numbers of *Poultry* on agricultural holdings in England and Wales are not shown in the tables accompanying this article, a few brief remarks on recent fluctuations may be of interest. It must be borne in mind, of course, that whereas the figures of other descriptions of live stock for all intents and purposes cover the whole of the country, the statistics of poultry do not take into account the comparatively large proportion kept on allotments and in back gardens, as these premises are excluded from the annual census. On June 4, 1930, the number of *Fowls* on agricultural holdings above one acre in extent rose as compared with 1929 by 12 per cent. to 47,900,000, a total which was 20 per cent. higher than that returned in 1928. *Ducks* showed a 6 per cent. increase to 2,400,000. The numbers of *Geese*, at 606,000, were lower than in any year since 1924 and 10,000 below the 1929 level. Following the substantial advance of close on 100,000 in *Turkeys* between 1928 and 1929 a decline of 23,000 was recorded during the period under review, but this total was, nevertheless, above any returned since these statistics were regularly collected, with the exception of 1929.

PRODUCE OF CROPS.

Statistics of the production and yield per acre of the principal crops are given in Table II.

The year under review was very unfavourable to the *Wheat* crop, the yield per acre being estimated at a trifle under 16 cwt. as compared with 19·1 cwt. in 1929 and a ten-year average of 17·7 cwt. Since the end of the war, the yield of wheat has fallen below the 16 cwt. mark on only two other occasions, viz. in 1919 (15·9 cwt.) and 1920 (15·6 cwt.). The falling-off affected all the chief wheat-growing counties, the yields in North-eastern and Eastern districts being as much as 3·2 cwt. and 2·7 cwt. respectively below average. In spite, therefore, of the additional 16,000 acres devoted to this cereal, the total out-turn of 1,070,000 tons was about 200,000 tons (16 per cent.) lower than that of 1929. As compared with 1914, the latest figure is over half-a-million tons (35 per cent.) lower, and is 1,270,000 tons (54 per cent.) under the record out-turn of 2,339,000 tons of 1918, when, with the effects of the Food Production Campaign at their height, the greatly augmented acreage was accompanied by the high yield of 18·3 cwt. per acre.

Barley also fared badly in 1930, yielding but 14·4 cwt. to the acre, as against 17·8 cwt. in 1929 and 15·6 cwt. during the preceding ten years. Apart from a very trifling set-back in 1925, the average yield of barley had risen steadily since 1922, but the latest figure is only 0·4 cwt. per acre above the level recorded in that year. The poorness of the yields was not, however, general throughout England and Wales as in the case of wheat; in point of fact, nearly one-half of the individual counties returned

TABLE II.—Total Produce *and* Yield per Acre *of the* Corn, Hay *and* Root Crops *in* England and Wales *in* 1930, *with* Comparisons *for* 1929, *and the* Average Yield per Acre *of the Ten Years* 1920–29.

Crops	Total Produce		Acreage		Yield per Acre		
	1930 §	1929	1930 §	1929	1930 §	1929	Average of the Ten Years, 1920–29
	Thousands of Cwt.	Thousands of Cwt.	Acres.	Acres.	Cwt.	Cwt.	Cwt.
Wheat	21,404	25,425	1,346,090	1,330,122	15·9	19·1	17·7
Barley	14,735	19,951	1,020,371	1,120,247	14·4	17·8	15·6
Oats	26,818	30,640	1,777,790	1,853,790	15·1	16·5	14·5
Mixed Corn	2,007	2,323	130,111	138,592	15·4	16·8	14·8
Beans	2,779	2,201	161,342	144,435	17·2	15·2	16·3
Peas	1,157	1,281	78,237	78,635	14·8	16·3	14·2
	Thousands of Tons	Thousands of Tons					
Seeds Hay*	2,321	1,746	1,595,462	1,523,692	29·1	22·9	27·7
Meadow Hay†	5,587	3,595	5,051,711	4,695,916	22·1	15·3	20·2
					Tons.	Tons.	Tons.
Potatoes	2,741	3,588	424,408	518,813	6·5	6·9	6·2
Turnips and Swedes	7,928	8,304	669,977	697,878	11·8	11·9	12·5
Mangolds	5,441	5,687	288,004	298,690	18·9	19·0	19·1

* Hay from Clover, Sainfoin, and Grasses under Rotation.
† Hay from Permanent Grass.
§ Subject to revision.

TABLE III.—Hops :—*Total Production in the years* 1930 *and* 1929, *with the Acreage and Yield per Statute Acre in each County of England in which* Hops *were grown ; and the Average Yield per Acre of the Ten Years* 1920–1929.

Counties, etc.	Acreage.		Total Produce.		Yield per Acre.		
	1930 §	1929	1930 §	1929	1930 §	1929	Average of the Ten Years, 1920–29
	Acres	Acres	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
TOTAL FOR ENGLAND	19,997	23,986	253,000	359,100	13·1	15·0	12·3
Kent—East	2,685	3,311	35,900	57,000	13·4	17·2	14·1
Kent—Mid	3,606	4,900	48,400	77,000	13·4	15·8	13·9
Kent—Weald	5,529	6,661	70,700	99,000	12·8	14·8	12·3
Kent—Total, Kent	11,820	14,872	155,000	233,000	13·1	15·7	13·3
Hants	867	1,012	6,800	17,000	7·9	16·7	11·8
Surrey	140	161	1,550	1,900	11·3	12·0	11·7
Sussex	1,680	2,139	22,600	36,000	13·4	16·8	12·3
Hereford	3,688	3,855	48,800	50,000	13·2	12·9	9·8
Worcester	1,732	1,818	17,300	20,000	10·0	11·2	9·8
Other Counties*	70	129	950	1,200	13·4	9·4	8·9

* Salop, Gloucester, and Berkshire.

§ Subject to revision.

over-average yields, but the important barley growing areas in the North-eastern and Eastern counties were well below average. The disappointing harvest, coupled with the loss of 94,000 acres given over to the crop, resulted in the unusually small production of 737,000 tons—a drop on the year of 261,000 tons, or 26 per cent., and close on 450,000 tons (38 per cent.) below the level of 1914, when a yield of 15·7 cwt. per acre was returned.

In the case of *Oats*, yields throughout Wales and in most of the English counties were rather over the ten-year average, but in the North-eastern counties were well below it. As a result, the yield over the country as a whole fell by about 1·4 cwt. to 15·1 cwt. per acre. This figure can still be regarded as satisfactory, however, in view of the fact that in only one year between 1913 and 1923, viz. in 1918, did the yield exceed 14 cwt. to the acre. The total out-turn of oats during 1930 amounted to 1,341,000 tons, or nearly 200,000 tons less than in 1929, but almost identical with the 1914 figure.

Taking the three main cereal crops together, the aggregate production in 1930 was about 3,150,000 tons as compared with 3,800,000 tons in the preceding year, 3,728,000 tons in 1928, 4,158,000 tons in 1914, and as much as 5,500,000 tons in 1918.

Beans yielded particularly well last year, the 17·2 cwt. per acre recorded, being 2 cwt. in excess of the 1929 figure, and nearly 1 cwt. above the ten-year acreage. Beans have proved to be a very variable crop during the past twenty years, the yields ranging from 9·6 cwt. per acre in 1917 to 17·8 cwt. in 1920, falling to 13·8 cwt. in 1922, and improving again to 17·7 cwt. in 1925. On a larger acreage, the total output rose by 29,000 tons to 139,000 tons.

The yield of *Peas* fell away from the 16·3 cwt. per acre recorded in 1929 to 14·8 cwt. per acre, at which level it was, nevertheless, slightly over the average of the preceding ten years. The total production amounted to about 58,000 tons, or 6,000 tons less than in the previous year.

The *Potato* crop in 1930 was rather variable, the yields in most of the North-western counties, in the Isle of Ely and the Holland division of Lincolnshire being a trifle under average, but above average over most of the remaining parts of the country. Taking the country as a whole, the yield was slightly lower at 6·5 tons to the acre, but a little above the average of the previous ten years. As the extent of land devoted to potato growing was reduced by over 90,000 acres, the total output of the crop fell by nearly 850,000 tons (24 per cent.) to 2,741,000 tons—the lowest figure recorded since the 2,696,000 tons of 1924, and approximating very nearly to the pre-war production. The largest output during recent years was the 4,209,000 tons in 1918 which was secured from a yield of 6·6 tons per acre, while the 7·1 tons per acre recorded in 1921 resulted in a crop of 4,012,000 tons.

Turnips and Swedes fared badly in 1930, especially in the North, where the yield was about two-thirds of a ton below average. Taking the country as a whole, the yield was about the same as in 1929, viz. 11·8 tons per acre, as compared with an average of 12·5 tons per acre during 1920–29. As the area sown was 28,000 acres less on the year, the total production declined by about 375,000 tons to 7,928,000 tons, or by nearly 5 per cent., the latest figure being the lowest recorded in any year since 1920, with the exception of the 6,608,000 tons of 1921, when the yield per acre dropped to the remarkably poor level of 7·4 tons.

Mangolds yielded 18·9 tons to the acre as against 19·0 in 1929 and 19·1 tons during the previous ten years, and on a somewhat reduced acreage, the out-turn amounted to 5,441,000 tons as compared with 5,687,000 tons in 1929—a drop of 246,000 tons, or 4 per cent. In 1918, 8,231,000 tons of mangolds were harvested from a yield of 20·6 tons per acre, while the 18·4 tons per acre of 1914 produced 7,919,000 tons.

Weather conditions during the earlier part of the 1930 agricultural season were unusually favourable for *Hay*, but before the harvesting of the crop was completed a period of wet weather was experienced, which caused crops in some districts to be partially spoilt, particularly in Wales and the North of England. Nevertheless, the yield from each kind of hay was substantially in advance of the previous year's figures and above the ten-year averages. Seeds hay yielded fully 29 cwt. to the acre, or over 6 cwt. more than in 1929, and about 1·4 cwt. in excess of the average of 1920–29, while the yield of meadow hay came out at about 22 cwt. per acre as against 15·3 cwt. in 1929 and a ten-year average of 20·2 cwt. As both crops were taken from larger acreages, a considerably heavier production was recorded, that of seeds hay rising by 575,000 tons to 2,321,000 tons, and the meadow variety by close on 2,000,000 tons to 5,587,000 tons. The total crop of hay was, therefore, 7,908,000 tons, as compared with 5,341,000 tons in 1929 and 6,418,000 tons in 1928, representing increases of approximately 50 per cent., and 25 per cent. respectively.

As will be seen from Table III, the yield per acre of *Hops* in 1930 was about 13 cwt. to the acre, as compared with 15 cwt. in 1929, and a ten-year average of 12·3 cwt. It should be borne in mind, however, that as the average yield per acre of hops is calculated on the acreage returned on June 4, the total production does not include the produce that might have been secured from the area left unpicked. During the period under review, the unpicked acreage was unusually large at 3,500 acres—or over

17 per cent. of the total acreage returned. Acreages were reduced in all the principal hop-growing areas, and the total output fell by 106,000 cwt. (30 per cent.) to 253,000 cwt., which compares with a pre-war crop of about 320,000 cwt. The decrease in Kent amounted to 78,000 cwt. (33 per cent.), in Hampshire 10,200 cwt. (60 per cent.), and in Sussex 13,400 cwt. (37 per cent.). In Hereford and Worcester, the output in 1930 was comparatively little smaller than in 1929.

PRICES.

During the year under review, agricultural produce, in common with most other commodities, encountered a very depressed price level, and the index number calculated by the Ministry of Agriculture fell by 10 points to 34 per cent. above the pre-war base years (1911–13), as compared with 47 per cent. in 1928, 44 per cent. in 1927, and 51 per cent. in 1926. Prices were, in fact, lower than in any year since 1915. While the decline in the index level was spread over most descriptions of produce, the chief contributory factors were the heavy reductions in grain, milk and dairy produce, potatoes and wool. Live stock proved an exception to the general rule, values usually being maintained at a relatively high level. Table IV shows the course of prices month by month of the principal agricultural products, while Table V gives the general monthly increase over 1911–13 since 1921.

Grain.

The average prices of *British Corn* during each week of 1930, together with the annual averages over the past ten years, are shown in Tables VI and VII.

The index number for *Wheat* in January 1930 was identical with the annual average for 1929, *i.e.*, 30 per cent. above 1911–13, but from then onwards a rapid decline set in, until by the following September prices were below the pre-war level, and continued so for the remainder of the year. Taking the twelve months as a whole, wheat was only 5 per cent. dearer than in the base period, as compared with 32 per cent. in 1928, 52 per cent. in 1927, and 64 per cent. in 1926. While in 1929, prices ranged from 9*s*. 5*d*. per cwt. to 10*s*. per cwt. for the first six months, they were below the 9*s*. mark for 17 weeks in the corresponding period of 1930. Moreover, instead of the customary appreciable rise during July and August, values continued to move in a downward direction, and the decline became even more pronounced towards the end of the year. The average for the last week of the twelve months under review was only 6*s*. per cwt., which compares with 9*s*. 6*d*. in 1929, while the annual average

TABLE IV.—Percentage Increase *or* Decrease* *in the* Monthly Prices *of Individual Descriptions of* Agricultural Produce *during the Year* 1930, *as compared with the Corresponding Month of* 1911–13.

Commodity	Month												Year
	Jan	Feb	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec	
Wheat	30	21	12	14	11	7	2	4	−3*	−7*	−11*	−17*	5
Barley	7	Nil	−2*	Nil	−1*	−4*	−12*	−12*	3	13	11	Nil	Nil
Oats	1	−8*	−15*	−11*	−11*	−16*	−20*	−13*	−12*	−12*	−17*	−20*	−13*
Fat Cattle	38	37	37	33	30	27	30	37	35	31	28	20	33
„ Sheep	67	56	52	56	63	66	66	62	62	62	53	44	60
Bacon Pigs	90	95	90	76	61	46	40	41	33	25	29	26	53
Pork Pigs	98	99	96	80	67	52	49	50	44	45	50	53	65
Dairy Cows	33	31	30	30	29	29	32	35	31	30	31	30	31
Store Cattle	25	26	26	24	28	28	29	30	27	27	23	22	29
„ Sheep	55	49	48	43	46	65	78	66	69	62	56	50	56
„ Pigs	137	135	125	113	108	101	100	112	107	107	111	104	113
Eggs	40	51	31	40	28	29	44	40	36	56	33	14	36
Poultry	44	41	52	55	64	57	47	43	40	39	36	31	47
Milk	67	67	55	58	55	55	58	58	100	47	57	65	61
Butter	44	43	37	30	23	24	31	33	24	14	10	12	28
Cheese	37	39	40	41	52	42	32	28	22	17	16	16	30
Potatoes	−4*	−14*	−24*	−39*	−36*	−40*	23	25	51	40	46	49	−4*
Hay,	38	34	34	30	28	25	18	15	11	−4*	−7*	−7*	18
Wool	32	18	11	3	Nil	−1*	−4*	−5*	−8*	−12*	−17*	−19*	−18*

TABLE V.—Percentage Increase *in the* Monthly *and* Yearly Prices *of* Agricultural Produce *as a whole in each Year from* 1921 *to* 1930 *as compared with the Corresponding Periods* 1911–13.

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
January	180	71	67	60	71	58	49	45	45	48
February	164	75	63	61	69	53	45	43	44	44
March	146	73	59	57	66	49	43	45	43	39
April	145	66	54	53	59	52	43	51	46	37
May	115	69	54	57	57	50	42	54	44	34
June	105	64	49	56	53	48	41	53	40	31
July	103	67	50	53	49	48	42	45	41	34
August	122	68	52	57	54	49	42	44	52	35
September	113	59	52	61	55	55	43	44	52	42
October	82	61	50	66	53	48	40	39	42	29
November	74	63	51	66	54	48	37	41	44	29
December	71	61	55	65	54	46	38	40	43	26
Year	119	69	57	61	59	51	44	47	44	34

came out at 8*s*. per cwt. as against 9*s*. 10*d*. The highest figure in 1930 was the 9*s*. 7*d*. recorded during the middle of January, whereas in 1929 the mid-August average was 12*s*. 3*d*.

Barley commenced the year with an average of 8*s*. 10*d*. per cwt. as compared with 9*s*. 11*d*. in the preceding year, *i.e.*, a loss of 1*s*. 1*d*.; but by the end of June the gap between the two sets of prices had widened to 2*s*. 6*d*. per cwt. A rally took place at the beginning of September, however, and the 10*s*. per cwt. recorded during the closing week of October was but 2*d*. per cwt. less than a year earlier. Subsequently, quotations receded somewhat in accordance with the customary movement, but the reductions were comparatively small, the year ending with an average of 8*s*. 3*d*. per cwt. as against 8*s*. 8*d*. in 1929. The yearly average fell by 2*s*. to 7*s*. 11*d*. per cwt., which compares with 11*s*. in 1928, 11*s*. 9*d*. in 1927 and 10*s*. 4*d*. in 1926, and was, in fact, precisely the same as that recorded in the base years, so that the index number fell by 25 points on the year.

The depression in grain prices was most marked in the case of *Oats*, the index number for which was 38 points lower at 13 per cent. below pre-war. Between 1928 and 1929, a drop of 22 points was recorded. During January, prices were a trifle above those ruling in the base period, but for the remaining months were at a lower level, the worst months being July and December, with an average of 20 per cent. under pre-war. As with wheat, the closing weeks of the year witnessed the most rapid decline, ending with an average of no more than 5*s*. 6*d*. per cwt. as compared with 7*s*. at the commencement of 1930 and 9*s*. 1*d*. in the opening week of 1929. The annual average came out at 6*s*. 2*d*. per cwt. as against 8*s*. 10*d*. and 10*s*. 5*d*. respectively in the two preceding years.

Live Stock.

Prices of *Fat Cattle* during the period under review were much the same on average as those ruling in 1929, and the index number showed no change at 33 per cent. above the pre-war base years. In 1927, fat cattle were 27 per cent. dearer than pre-war and in 1926 41 per cent. dearer. Table VIII gives the monthly average prices of certain descriptions of fat and store stock in 1930, and Table IX the annual averages since 1921.

The higher prices recorded during December 1929 were well maintained in the following month, and the upward movement continued until April. Quotations for Shorthorns were rather above those ruling during the corresponding period of 1929 for these four months, the January average of 53*s*. 9*d*. per live cwt. for the best beasts comparing with 52*s*. 3*d*. in January 1929, and the April figures 54*s*. 11*d*. as against 53*s*. 11*d*. A slight

TABLE VI.—Average Prices of British Corn *per cwt.* (*of* 112 *Imperial Standard lb.*)[1] *in England and Wales, as ascertained under the Corn Returns Act*, 1882, *and the Corn Sales Act*, 1921, *in each week of the Year* 1930.

1930 Received in the Week Ended		Wheat		Barley		Oats	
		s.	*d.*	*s.*	*d.*	*s.*	*d.*
January	4	9	6	8	10	7	0
"	11	9	7	8	7	7	0
"	18	9	7	8	6	6	11
"	25	9	6	8	5	6	11
February	1	9	4	8	4	6	9
"	8	9	2	8	2	6	7
"	15	9	0	8	0	6	5
"	22	8	9	7	11	6	4
March	1	8	7	7	11	6	2
"	8	8	4	7	8	6	1
"	15	8	3	7	9	6	0
"	22	8	3	7	8	6	0
"	29	8	3	7	10	5	11
April	5	8	4	7	7	6	0
"	12	8	7	7	10	6	3
"	19	8	10	7	9	6	7
"	26	9	0	7	9	6	8
May	3	9	0	7	10	6	8
"	10	8	11	7	10	6	10
"	17	8	9	7	9	6	8
"	24	8	7	7	4	6	7
"	31	8	7	7	3	6	5
June	7	8	7	7	6	6	5
"	14	8	7	7	2	6	3
"	21	8	6	6	6	6	4
"	28	8	6	7	5	6	6
July	5	8	5	6	11	6	5
"	12	8	4	6	8	6	2
"	19	8	3	6	4	6	1
"	26	8	3	6	5	6	0
August	2	8	3	6	6	6	0
"	9	8	4	6	4	5	11
"	16	8	5	6	8	6	5
"	23	8	5	6	9	6	3
"	30	8	3	7	3	6	2
September	6	7	8	8	4	6	0
"	13	7	3	8	3	5	11
"	20	7	2	9	2	5	11
"	27	7	2	8	7	6	0
October	4	7	0	9	3	6	0
"	11	7	0	9	5	6	1
"	18	6	11	9	8	6	2
"	25	7	0	10	0	6	1
November	1	6	11	9	10	6	0
"	8	6	10	9	8	5	11
"	15	6	9	9	8	5	11
"	22	6	7	9	4	5	10
"	29	6	5	8	8	5	8
December	6	6	4	8	5	5	8
"	13	6	2	8	3	5	8
"	20	6	1	8	2	5	8
"	27	6	0	8	3	5	6
Average for the year		8	0	7	11	6	2

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[1] Section 8 of the Corn Returns Act, 1882, as amended by Section (2) of the Corn Sales Act, 1921, provides that in the weekly summary of quantities and prices, each sort of British corn shall be computed with reference to the hundredweight of one hundred and twelve imperial standard pounds.

TABLE VII.—**Annual Average Prices,** *per cwt.* (*of* 112 *Imperial Standard lb.*), *of* **British Wheat, Barley** *and* **Oats** *in England and Wales in each Year from* 1920 *to* 1930, *as ascertained under the Corn Returns Act,* 1882, *and the Corn Sales Act,* 1921.

Year	Annual Average Price per cwt.		
	Wheat	Barley	Oats
	s. d.	s. d.	s. d.
1920	18 10	25 0	20 5
1921	16 8	14 7	12 3
1922	11 2	11 3	10 5
1923	9 10	9 5	9 7
1924	11 6	13 1	9 9
1925	12 2	11 9	9 9
1926	12 5	10 4	9 0
1927	11 6	11 9	9 1
1928	10 0	11 0	10 5
1929	9 10	9 11	8 10
1930	8 0	7 11	6 2

and temporary check occurred in May and June, when values were a little below those secured in the preceding year. For the next three months, however, the customary reductions were rather less marked, and up to this point, quotations on the whole had been a little above those recorded in 1929. Prices fell away in October, however, and the gap widened during November, first quality Shorthorns averaging only 48*s*. 1*d*. per live cwt. as against 50*s*. 9*d*. in November, 1929. The anticipated pronounced rise in December was not forthcoming, moreover, in spite of the excellent quality of the cattle penned for the Christmas shows and sales, and the advance of a mere 6*d*. per live cwt. was very disappointing to vendors ; at the corresponding period of 1929 the average rose by about 2*s*. 6*d*. per live cwt. Taking the year as a whole, first quality Shorthorns realised 52*s*. 1*d*. per live cwt. and second quality animals 45*s*. 6*d*. as against 52*s*. 4*d*. and 45*s*. 10*d*. respectively in 1929, the slight differences being insufficient to alter the index figure. April was the peak month of the year, the best Shorthorns then averaging 54*s*. 11*d*. per live cwt. as compared with the top figure of 55*s*. 1*d*. ruling in May, 1929. Herefords made rather more money than Shorthorns, the annual averages coming out at 52*s*. 3*d*. per live cwt. for first quality beasts and 47*s*. 9*d*. for those of second quality, as against 52*s*. 6*d*. and 47*s*. 10*d*. respectively per live cwt. during the preceding twelve months. Devon

TABLE VIII.—**Monthly** *average* **Prices** *of Certain Descriptions of* **Fat** *and* **Store Stock** *in England and Wales during the Year* 1930.

Description	Quality	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
		Per cwt. live weight												
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
FAT CATTLE: Shorthorns	1	53 9	53 11	54 7	54 11	54 4	53 5	52 2	51 11	50 7	49 0	48 1	48 7	52 1
	2	46 5	46 10	47 8	45 0	47 4	46 6	45 6	45 5	44 5	43 3	42 3	42 7	45 6
Herefords[1]	1	52 11	53 2	54 7	55 7	55 11	54 4	53 4	52 7	50 10	49 3	47 6	46 11	52 3
	2	47 5	48 1	49 6	50 8	50 3	49 11	49 9	49 0	46 11	45 0	43 6	42 7	47 9
Devons[1]	1	56 9	56 3	56 9	58 0	57 10	57 3	56 6	56 7	54 0	53 5	52 5	52 0	55 8
	2	50 5	50 3	50 8	52 0	52 2	51 9	50 7	51 2	49 8	48 10	47 1	47 0	50 2
Fat Cows	1	40 6	40 11	41 8	42 0	41 4	40 5	39 1	39 2	38 7	37 6	36 6	36 6	39 6
	2	32 4	32 6	33 4	33 7	33 0	32 2	31 5	31 3	30 5	30 0	29 0	28 11	31 6
		Per head												
		£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
MILKING COWS: Shorthorns in Milk	1	30 15	30 7	29 8	29 2	29 1	28 18	30 1	30 16	30 12	30 17	31 9	31 8	30 4
	2	24 14	24 4	23 8	23 9	23 7	22 17	23 17	24 8	24 5	24 7	24 17	24 18	24 1
Calvers	1	27 6	26 19	25 19	26 7	26 10	27 0	27 16	27 19	27 12	27 11	28 5	28 13	27 6
	2	22 15	22 13	22 6	22 8	22 12	22 6	23 4	23 10	23 3	23 8	23 15	23 17	23 0
		Per lb.												
		d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
VEAL CALVES	1	13¾	14½	14½	14¾	15	14¼	13½	13½	13½	13	13	13¼	13¾
	2	12	12½	12½	12¾	13¼	12¾	11¾	11¾	11¾	11¼	11½	11¾	12
FAT SHEEP: Downs	1	14¾	14½	14¾	14¾	14¼	14	13¾	13¾	13¾	13¾	13½	13½	14
	2	13	12¾	13	13½	13	12½	12¼	12¼	12	12¼	12¼	12	12½
Longwools	1	13¼	13½	13½	13	12¾	12½	12¾	12½	12½	12½	12¼	12¼	12¾
	2	12	12¼	12	11¾	11½	11½	11¼	11¼	11¼	11¼	10¾	10¾	11½
Crossbreds	1	14½	14¼	14½	14¼	14¼	13¼	13¾	13¼	13½	13½	13¼	13¼	13¾
	2	12½	12¾	12¾	12¾	12½	12¼	12¼	12	11¼	11¾	11½	11½	12¼
		Per score lb. dead weight												
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
FAT PIGS: Baconers	1	19 5	20 4	20 4	18 8	17 2	15 3	15 1	15 5	14 9	13 10	14 0	13 9	16 6
	2	18 1	19 0	19 0	17 7	16 0	14 3	13 11	14 5	13 8	12 10	12 11	12 7	15 4
Porkers	1	22 2	22 9	22 4	20 4	18 11	16 10	16 9	17 2	17 1	17 4	17 11	18 1	19 0
	2	20 6	21 1	20 9	19 0	17 7	15 7	15 5	15 11	15 7	15 9	16 4	16 8	17 6
		Per head												
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
STORE PIGS: 8–12 weeks old	1	44 7	47 11	49 9	46 0	46 2	43 11	41 11	44 6	43 4	42 1	41 6	40 11	44 5
	2	35 2	37 11	39 0	36 1	36 3	33 10	32 2	35 1	34 3	32 8	31 3	30 8	34 6
12–16 weeks old	1	65 5	69 3	70 0	65 11	65 1	61 1	59 11	62 5	61 8	60 0	59 3	58 4	63 2
	2	54 1	57 5	58 6	54 9	54 1	50 0	48 7	51 7	50 10	49 1	48 6	48 0	52 1

[1] The prices of Herefords and Devons are based on a comparatively small number of quotations.

cattle averaged 55*s*. 8*d*. per live cwt. for the best beasts and 30*s*. 2*d* for secondary descriptions. Values for fat cows followed much the same course as those for best beef, and the annual averages for first and second quality cows were only 1*d*. and 2*d*. respectively per live cwt. lower on the year. The month of highest prices was April, when first quality cows sold at an average of 42*s*. per live cwt. and secondary beasts at 33*s*. 7*d*., while the lowest figures were the 36*s*. 6*d*. and 28*s*. 11*d*. recorded in December.

Quotations for *Fat Sheep* were on average fully as high as in 1929, and with secondary quality sheep showing a definite rise of ¼d. per lb. the index number advanced by 3 points to 60 per cent. above the level of the base period, as compared with 67 per cent. in 1928, 50 per cent. in 1927 and 57 per cent. in 1926. Prices were very stable throughout the twelve months, the variation amounting to no more than 1¼*d*. per lb. as between the highest and lowest figures. During the spring, values were about on a par with those ruling at the corresponding period of 1929, while during the summer they were consistently higher. A comparatively sharp reaction occurred in November and December, however, prices then being ½d. per lb. below the previous year's levels. Over 1930 as a whole, first quality Downs averaged 14*d*. per lb. or the same as in 1929, but secondary sheep were ¼*d*. dearer at 12½*d*. per lb. Best longwools again realised 12¾*d*. per lb. on average, while those of second quality made ¼*d*. per lb. more money. Secondary crossbreds also were ¼*d*. per lb. dearer on the year.

Bacon Pigs failed to maintain the higher level of prices recorded in 1929 and the index number was 7 points lower at 53 per cent. above pre-war, which compares with 35 per cent. in 1928, 44 per cent. in 1927, and 80 per cent. in 1926. In the case of *Porkers*, however, values were fully as high as in 1929, and the index figure was unaltered at 65 per cent. above 1911–13. In 1928 the index for porkers stood at 38 per cent., in excess of the level of the base years, in 1927 at 55 per cent. and in 1926 at 84 per cent. The upward movement noticeable at the close of 1929 was well in evidence during the opening months of 1930, and as compared with the corresponding period of 1929, first quality baconers were over 4*s*. per score lb. dearer in January and February and about 3*s*. dearer in March. From then until November, however, prices were from 2*s*. 2*d*. to 2*s*. 9*d*. per score below the previous year's levels, and in December the gap widened to 4*s*., a slight fall being recorded instead of the usual advance consequent upon the Christmas trade. Averaged over the year, first quality baconers realised 16*s*. 6*d*. per score lb. or 9*d*. less than in 1929, secondary sorts being reduced by 7*d*. to 15*s*. 4*d*. per score. Quotations for *Porkers* followed much the

TABLE IX.—Yearly *Average* Prices *of Certain Descriptions of* Fat *and* Store Stock *in England and Wales during the Years* 1921–1930.

Description	Quality.	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
		Per cwt. live weight									
FAT CATTLE:		*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Shorthorns	1	88 0	64 5	59 10	60 0	59 11	55 10	50 6	55 0	52 4	52 1
	2	78 2	56 6	53 0	53 3	52 2	48 4	43 8	47 9	45 10	45 6
Herefords [1]	1	88 4	64 1	59 11	59 8	60 5	55 2	50 6	54 5	52 6	52 3
	2	78 8	57 0	53 6	53 1	53 5	48 7	45 8	49 7	47 10	17 9
Devons [1]	1	86 10	63 3	58 7	58 4	58 10	55 8	52 9	56 8	56 4	55 8
	2	76 5	53 1	50 8	49 5	51 11	45 9	47 6	49 7	50 1	50 2
Fat Cows	1	74 1	49 6	46 0	45 3	45 10	40 8	36 10	40 10	39 7	39 6
	2	64 6	42 1	39 0	38 1	38 2	33 0	29 5	33 0	31 8	31 6
		Per head									
MILKING COWS:		£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Shorthorns in Milk	1	54 13	39 3	36 6	36 9	34 9	31 19	29 1	30 8	30 10	30 4
	2	41 19	30 8	28 8	28 19	26 15	25 0	23 3	24 15	24 8	24 1
Calvers	1	50 19	35 15	33 8	33 2	32 6	29 19	27 3	27 9	27 9	27 6
	2	40 5	28 12	26 5	27 7	25 14	24 1	22 12	23 4	22 16	23 0
		Per lb.									
		d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
VEAL CALVES	1	18	14½	13¾	13¾	13¾	13¼	13	13½	13½	13¼
	2	15½	11¾	11½	11½	11½	11¼	11	11½	11½	12
FAT SHEEP:											
Downs	1	19½	18½	16¾	16¾	16¾	14	13½	14¾	14	14
	2	17	15¼	14¾	14¼	14¾	12½	11½	12¾	12¼	12¼
Longwools	1	18	16¾	15½	15¾	15½	13	12	13½	12¾	12¼
	2	15½	14½	13½	13¼	12¼	11½	10½	12	11¼	11¼
Crossbreds	1	19¾	17¾	16¼	16¾	16½	13¾	13¼	14¾	13¾	13¼
	2	17½	15½	14½	14½	14¼	11¼	11¼	12¼	12	12¼
		Per score lb. dead weight									
FAT PIGS:		*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Baconers	1	24 3	20 0	17 6	15 0	17 10	19 6	15 10	14 11	17 3	16 6
	2	22 0	18 0	15 9	13 4	16 4	18 0	14 5	13 5	15 11	15 4
Porkers	1	26 11	22 3	19 9	16 4	18 11	21 1	18 0	16 2	18 11	19 0
	2	24 9	20 4	18 1	14 9	17 5	19 6	16 5	14 8	17 6	17 6
		Per head									
STORE PIGS:		*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
8–12 weeks old	1	47 10	42 8	43 11	25 9	31 4	46 6	37 9	24 8	36 6	44 5
	2	34 9	32 4	33 2	18 7	23 1	36 11	28 3	17 10	28 1	34 6
12–16 ,, ,,	1	82 2	68 1	68 5	45 4	52 1	68 4	57 4	43 7	54 9	63 2
	2	65 1	54 5	55 6	35 11	41 2	56 7	46 3	33 8	43 11	52 1

[1] The prices of Herefords and Devons are based on a comparatively small number of quotations.

same course as those for bacon pigs, but during the eight months when prices were consistently lower than in 1929, the extent of the reductions was proportionately less pronounced, and they were more than counterbalanced by the substantially higher figures recorded in the early months. On average best porkers realised 19*s.* per score lb. and second quality pigs 17*s.* 6*d.* per score.

Veal Calves were dearer than for some years past, and the index figure advanced by 3 points to 55 per cent. above 1911–13. From March onwards until October values ruled at a higher level than at the corresponding period of 1929, being highest in May, when first quality calves averaged 15*d.* per lb. and those of second quality 13¼*d.* as compared with the peak figures of 14½*d.* per lb. and 12½*d.* respectively, in May, 1929. Over the year, best vealers made ¼*d.* per lb. more money at 13¾*d.* per lb. and secondary sorts ½*d.* more at 12*d.*

Dairy Cows as a whole were slightly cheaper during the twelve months under review, averaging 31 per cent. over pre-war as compared with 33 per cent. in 1929. Best milkers averaged £30 4*s.* per head as against £30 10*s.* in 1929, and secondary cows £24 1*s.* as against £24 8*s.*, while in the case of calvers, first quality were a matter of only 3*s.* per head cheaper on the year, while second quality were about 4*s.* per head dearer.

Store Cattle made rather more money, averaging 29 per cent. above 1911–13, as against 22 per cent. in 1929. *Store Sheep*, however, were practically unaltered either in price or index number.

Store Pigs provided a bright spot by rising appreciably in value, and the index number was 34 points higher on the year at 113 per cent. in excess of pre-war. Values were highest in March, when first quality 8–12 weeks old pigs sold at an average of 49*s.* 9*d.* per head and second quality stores at 39*s.*, while best older pigs averaged 70*s.* per head and secondary sorts 58*s.* 6*d.* Over the year as a whole, young stores were from about 6*s.* 6*d.* to 8*s.* per head dearer, and stronger stores rather over 8*s.* higher for both qualities.

Dairy and Poultry Produce.

The 1929–30 agreement reached by the Permanent Joint Milk Committee governed *Milk* prices up to the end of September, 1930, while the 1930–31 agreement covered the remainder of the year under review. The following table shows the monthly variations throughout the year in the price per gallon for liquid milk :—

	Class 1.		Class 2 (and 2A).		Class 3 (and 2B).	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
January . . .	1	5	1	5	1	4
February . . .	1	5	1	4	1	4
March . . .	1	4	1	4	1	3
April	1	0	1	0	1	0
May	1	0	1	0	0	11½
June	1	0	1	0	0	11½
July	1	0	1	0	1	0
August	1	0	1	0	1	0
September . . .	1	4	1	4	1	4
October. . . .	1	4	1	4	1	3
November . . .	1	4	1	4	1	5
December . . .	1	5	1	5	1	5

As regards deliveries to be paid for at these prices the permissible variation either way from the declared quantity was 10 per cent. in the case of Class 1, 20 per cent. in Class 2 up to September, and 25 per cent. thereafter (Class 2A), and 50 per cent. in Class 3 up to September, and no restrictions as to quantity thereafter (Class 2B), but with the proviso that 90 per cent. of the deliveries would be paid for at such prices. These agreements failed to prove acceptable in the Manchester area and in a few other districts, where prices subsequently ruled on a lower scale. The index figure for milk delivered under contract (not necessarily the national contract scheme) during 1930 was 8 points lower at 61 per cent. over pre-war, or the same as in 1928.

Butter prices were much lower than in 1929, averaging only 28 per cent. above the pre-war level as compared with the previous 52 per cent. While the general trend of values was in a downward direction throughout the greater part of the year, the heaviest drop occurred in the last three months, the index receding by 14 points between September and November to no more than 10 per cent. over the base level. *Cheese* also was appreciably cheaper on the year, the index figure declining by 28 points to 30 per cent. above 1911–13, the corresponding figure for 1928 being 75 per cent. Here again, the end of the year was the period of lowest prices, the index falling to 16 per cent. over pre-war in November and December.

Eggs shared in the general decline in prices of dairy and poultry produce, the index number being 23 points down on the year at 36 per cent. over the base level, which also compares unfavourably with the 46 per cent. of 1928. At the beginning of the year, eggs were from 40 to 50 per cent. dearer than prewar, and apart from three months in the spring and early summer, values ruled at round about the same mark. In December, however, a sharp fall of 19 points in the index figure was recorded to only 14 per cent. above 1911–13. The *Poultry* index was 5 points lower on the year at 47 per cent. in excess of the base period.

Other Commodities.

The depression in *Potato* prices in 1929 continued to manifest itself during the first half of the ensuing year, and became intensified up to June, when the index figure stood at 40 per cent. below the pre-war level. The marketing of the first earlies, however, brought about a revival, the index number rising to 51 per cent. above 1911–13 in September, and after a further fall of 11 points, appreciating again to 49 per cent. in December. Over the year as a whole, potatoes were 4 per cent. cheaper than pre-war, as compared with 17 per cent. dearer in 1929 and 71 per cent. dearer in 1928.

It will be recalled that values for *Hay* in 1929 were higher than in any year since 1923, but during 1930 a slight reaction took place, although the extent of the fall was comparatively small, and at 18 per cent. above pre-war, prices were still above those ruling from 1926 to 1928. The year under review opened at a higher level than in the corresponding period of the preceding year, but almost immediately quotations took a downward turn, which continued almost without interruption until the index figure in December stood at 7 per cent. below 1911–13. In spite of the good quality of the *Wool* offered for sale at the country auctions in June and July, and the active demand usually experienced, values showed a remarkably heavy fall as compared with the previous year's sales. Table X gives the average prices ruling for the principal descriptions of wool in each year from 1925 to 1930. Prices were on average lower than in any year since 1908, and the index number fell by 44 points to 18 per cent. below the level of the base period, the corresponding figures for 1927 and 1928 being 37 per cent. and 76 per cent. respectively above pre-war. At the 1921 sales, however, wool was 16 per cent. cheaper than in 1911–13. Values for *Hops* in 1930 were on average below even the very poor figures of 1929, and the index number fell by 4 points to 53 per cent. less than pre-war. In 1927 and 1928 hops were 37 per cent. and 26 per cent. respectively dearer than in the base period.

Practically all kinds of *Fruit* were substantially cheaper than in 1929, and the index figure dropped by 42 points to 17 per cent. over pre-war. Soft fruits were chiefly affected, and black currants and plums sold at below pre-war prices. Red currants, gooseberries, raspberries and strawberries also were heavily reduced, but cherries did not fare quite so badly. Apples maintained their prices reasonably well. The index for *Vegetables* came out at 38 per cent. above 1911–13, as compared with 64 per cent.

TABLE X.—*Average* Prices *per lb. of* Hogg *and* Ewe Wool *ruling at the Chief Country Wool Sales in England and Wales in each Year from* 1925 *to* 1930.

Description	1925	1926	1927	1928	1929	1930
Washed Wool.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
Lincoln	13	12	13⅞	18⅛	14⅛	10¼
Border Leicester	15¼	13⅜	15¼	20⅞	15⅝	9¾
Kent	15¼	13⅛	15¾	20	—	9
Southdown	20⅛	18¼	20⅝	27⅛	22⅝	13⅛
Hampshire	19¾	18	20½	24⅞	18⅞	13
Shropshire	19⅝	16⅝	18½	25⅛	18½	12⅝
Suffolk	18¼	16¾	19⅜	25⅜	18¾	12
Kerry Hill	18⅞	15⅝	17½	24	17⅝	11¾
Half-bred	16½	15⅛	16½	22¾	16⅞	10½
Cheviot	16	15¾	16	21¾	15⅞	11
Welsh	13⅝	11⅜	13	17⅛	14	9⅜
Unwashed Wool.						
Border Leicester	13¼	11⅝	13⅝	18⅛	13⅛	8
Kent	12⅞	11⅝	13½	18¼	13	7⅞
Southdown	15⅛	14	17⅜	21¾	14⅜	9
Hampshire	15⅛	14⅛	16⅛	19⅜	13½	8⅝
Shropshire	15⅛	13	14⅞	20⅜	14½	9½
Suffolk	13¾	13⅜	15⅜	20⅛	14¼	9⅛
Kerry Hill	14¾	12¾	14½	19⅛	13⅝	8¾
Half-bred	12¾	12	14⅛	18½	13⅛	8⅜
Cheviot	13⅜	12⅜	14½	18½	13⅜	8½
Welsh	12	9¼	11⅜	14½	11¼	7⅝
Exmoor	—	12⅝	14½	18⅝	13⅛	8⅛

TABLE XI.—Percentage Increases *or* Decreases* *in the Monthly* Prices *of Certain Descriptions of* Feeding Stuffs *during the Year* 1930, *as compared with the corresponding Months of* 1911–13.

Description of Feeding Stuff	Month											
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Imported Feeding Barley	5	−13*	−16*	−19*	−29*	−30*	−29*	−22*	−26*	−36*	−44*	−39*
Imported Oats	7	−5*	−11*	−4*	−17*	−19*	−24*	−18*	−18*	−15*	−23*	−23*
Maize	15	8	6	21	11	5	19	23	Nil	−14*	−26*	−25*
Milling Offals	12	4	−1*	5	−4*	−15*	−18*	−7*	−10*	−15*	−7*	−2*
Oilcakes	27	20	14	13	11	2	−4*	Nil	−6*	−14*	−14*	−11*
Brewers' Grains	24	10	−2*	−3*	−3*	−3*	−4*	− 7*	−14*	−21*	−26*	−25*
Maize and Barley Meal	14	5	−1*	7	Nil	−5*	−4*	2	−10*	−19*	−26*	−24*

in 1929. All descriptions were cheaper, but the largest individual decreases occurred in carrots and onions.

Feeding Stuffs.

Prices of feeding stuffs during 1930 were phenomenally low, averaging 4 per cent. under the base period 1911–13 as compared with 39 per cent. above in 1929 and 54 per cent. in 1928. All descriptions contributed to the fall of 43 points in the index number, maize, milling offals and oilcakes providing the major portion of the drop. The percentage changes month by month during 1930 are shown in Table XI while Table XII gives the annual figures since 1921.

Imported feeding *Barley* commenced the year at an average of 7*s*. 2*d*. per cwt., equivalent to 5 per cent. above the pre-war level, but values quickly fell until in July the average stood at only 5*s*. per cwt. or 29 per cent. below 1911–13. The index in August was rather higher, but further declines subsequently took place and the year ended at 39 per cent. under pre-war. Over the twelve months as a whole, feeding barley averaged 5*s*. 8*d*. per cwt. as against 8*s*. 6*d*. in 1929, the annual index figure being 40 points lower at 20 per cent. less than pre-war. Quotations for imported *Oats* also were below the 1911–13 level throughout the greater part of the year under review, and the annual index number was 36 points down at 11 per cent. under pre-war. Prices were lowest in December at an average of 5*s*. 3*d*. per cwt., which compares with 7*s*. 3*d*. in January.

For the first eight months of 1930, values for *Maize* were fairly well maintained, but a heavy reduction was recorded in October, the index figure falling by 14 points. Two further declines brought the index in December to 25 per cent. under the base level, and over the year as a whole, maize was only 4 per cent. dearer than pre-war as compared with 56 per cent. and 67 per cent. respectively in 1929 and 1928.

Barley Meal was substantially cheaper throughout the whole of 1930 than in the preceding year, and the annual price came out at £6 12*s*. 6*d*. per ton as compared with £9 17*s*. 6*d*., and the index figure fell by 41 points to 15 per cent. under 1911–13. *Maize Meal* also was appreciably reduced, but was dearer than pre-war for the greater part of the year, and the annual index figure was calculated at 5 per cent. over the base level, as against 45 per cent. in 1929. The combined index number for *Meals* was 5 per cent. below pre-war, as compared with 35 per cent. above in 1929, and 50 per cent. above in 1928.

Milling Offals took their full share in the downward movement of feeding stuffs prices, averaging 5 per cent. below 1911–13 as compared with 30 per cent. above in 1929 and 51 per cent. above in 1928. Except in January, values for *Bran* were con-

TABLE XII.—**Percentage Increases** *or* **Decreases*** *in the Yearly* **Prices** *of Certain Descriptions of* **Feeding Stuffs** *and* **Fertilisers** *in each Year from* 1921 *to* 1930, *as compared with the average of the Three Years* 1911–13.

Description	Year									
	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Imported Feeding Barley	84	32	15	49	44	22	48	47	20	–20*
Imported Oats	66	47	35	35	46	30	42	52	25	–11*
Middlings	73	33	23	44	33	15	38	39	18	–13*
Bran	85	49	35	57	54	29	59	63	43	4
Maize Meal	67	36	45	58	58	27	27	55	45	5
Barley Meal	95	41	24	52	48	26	46	45	26	–15*
Linseed Cake	92	66	42	58	52	30	36	46	53	20
Cotton Seed Cake (English)	93	53	37	56	51	19	28	53	40	–2*
Cotton Seed Cake (Egyptian)	95	51	35	51	45	12	22	48	37	–9*
Maize	81	48	52	67	67	28	35	67	56	4
Dried Ale Grains	59	54	32	47	54	22	29	54	49	–6*
General Increase or Decrease	81	46	36	54	52	25	39	54	39	–4*
Nitrate of Soda (N. 15½ per cent.)	76	39	28	30	23	24	20	1	–7*	–10*
Basic Slag (P.A. 14 per cent.)	224	95	40	12	16	40	46	19	19	22
Superphosphate (S.P.A. 13¾ per cent.)	158	57	30	28	23	15	12	3	14	15
Sulphate of Ammonia (N. 20·6 per cent.)	33	9	2	–4*	–13*	–19*	–26*	–32*	–34*	–37*
Kainit (14 per cent. potash)	98	7	–20*	–12*	2	12	12	20	22	23
General Increase or Decrease	120	47	23	10	14	13	10	– 2*	Nil	1

sistently under the £6 per ton level and in July were as low as £4 1*s.* 6*d.* The annual average came out at £5 5*s.* per ton as against £7 4*s.* 6*d.* in the preceding year. The reduction in prices of *Coarse Middlings* was just as pronounced, the yearly average showing a fall of fully £2 to £5 15*s.* per ton, and the index number declined by 31 points to 13 per cent. below the base level.

Linseed Cakes were dearer than pre-war throughout 1930, but the annual index figure of 20 per cent. above 1911–13 shows a drop of 33 points on 1929. Values for *Cotton Seed Cakes* were on average under those ruling in the base years, and the index figures were from 2 to 9 points lower than in 1929. *Oilcakes* as a whole averaged 3 per cent. over pre-war, as against 43 per cent. above in 1929.

The index figure for *Dried Ale Grains* declined by 55 points to 6 per cent. below 1911–13.

Fertilisers.

On the whole, *Fertilisers* were a trifle dearer than in 1929 at a level of 1 per cent. above the base period.

Nitrate of Soda and *Sulphate of Ammonia* continued to sell at less than in pre-war years, and on average were a little cheaper than twelve months earlier. These reductions, however, were more than counterbalanced by increases in *Kainit*, *Basic Slag* and *Superphosphate*, the index numbers for which were from 1 to 4 points higher on the year.

IMPORTS.

Table XIII gives the quantities and declared values of the imports of the principal agricultural commodities into Great Britain and Northern Ireland in 1929 and 1930, together with the annual average over the period 1924 to 1928.

Grain and Meal.

Imports of *Wheat* in 1930 totalled 5,250,000 tons, or 338,000 tons (6 per cent) less than a year earlier, and compares with the 5,179,000 tons of 1928 and the 5,522,000 tons of 1927. Arrivals from Argentina showed a remarkable slump, only 760,000 tons being received from that source as against 2,269,000 tons in 1929. Exports from the rest of the American Continent, however, were little less than in the previous year, the United States of America sending 1,054,000 tons and Canada 1,310,000 tons. Australian consignments totalled 636,000 tons, while arrivals from India rose from 7,000 tons to 167,000 tons. Russia reappeared on the market as one of the principal exporting countries, 943,000 tons being received as compared with none in 1929. The heavy decline in wheat prices during the period under review was reflected in the total declared value of the year's imports, which amounted to £43,129,000 as compared with £57,784,000 in 1929, equivalent to a little over £8 per ton, as against £10 in 1929, £11 in 1928, and £12 in 1927.

Following a 9 per cent. increase in imports of *Flour* between 1928 and 1929, a further 20 per cent. was added to the arrivals in 1930, these amounting to 587,000 tons as compared with 485,000 tons in 1929. Canada's contribution was greater by 39,000 tons at 225,000 tons, while the United States, Australia and France also sent more. Less flour came from the Argentine, however. In spite of the relatively heavy increase in imports, the total declared value was only about £319,000 greater at £6,652,000, which compares with £6,266,000 in 1928.

Consignments of *Barley* showed a sharp increase, 763,000 tons arriving as compared with 599,000 tons in 1929, *i.e.* 164,000 tons or 27 per cent. more. It will be recalled that the 1929 figure was the lowest recorded in any post-war year except 1926, but the latest addition brings the total to within 21,000 tons of the 1924–28 average. Exports from the United States were

TABLE XIII.—*Quantities and Declared Values of* **Imports** *of the principal* **Agricultural Commodities** *into Great Britain and Northern Ireland in* 1929 *and* 1930, *with the Average of the Imports for the Years* 1924 *to* 1928.

Commodity	Quantities			Declared Values		
	Annual Average 1924–1928	1929*	1930†	Annual Average 1924–1928	1929*	1930†
Grain and Meal.	Tons	Tons	Tons	£	£	£
Wheat	5,245,440	5,588,370	5,250,343	65,086,706	57,784,498	43,129,303
Wheat-Meal and Flour	507,073	485,172	586,926	8,041,860	6,333,433	6,652,038
Barley	783,997	599,313	763,405	8,287,765	5,522,137	4,609,240
Oats	396,753	346,495	482,987	3,449,449	2,747,518	2,414,135
Oatmeal (including Groats and Rolled Oats)	36,531	34,070	29,782	772,938	758,767	614,727
Peas (not fresh) . .	77,001	84,086	67,493	1,655,950	1,627,567	1,038,622
Beans (other than Haricot) . . .	44,035	66,753	36,704‡	607,452	896,944	723,436†
Maize	1,719,801	1,745,430	1,714,633	14,418,442	15,282,135	9,964,800
Maize Meal and Flour	110,624	143,872	138,211	1,063,538	1,406,077	1,000,084
Meat.						
Beef (Fresh, Chilled and Frozen) . .	639,265	585,749	580,845	29,952,050	31,409,330	30,095,697
Other Descriptions (including tinned and extracts) . . .	56,421	47,508	59,863	5,174,806	4,731,326	5,888,809
Mutton and Lamb .	276,561	288,398	327,556	19,751,761	19,481,046	20,303,015
Pork (including Bacon and Hams) . . .	512,147	505,331	553,548	51,625,204	53,057,787	50,344,785
Unenumerated (including Rabbits) § .	33,746	28,881	33,238	2,031,627	1,625,947	1,797,995
Total Dead Meat .	1,518,143	1,455,867	1,555,050	108,535,448	110,305,436	108,430,301
Butter	288,909	319,863	341,421	50,276,890	54,706,404	46,907,496
Cheese	149,546	149,702	155,622	14,336,139	13,912,535	12,602,571
Milk, condensed . .	120,413	132,536	130,098	5,191,794	4,785,573	4,314,232
	Gt. Hunds.	Gt. Hunds.	Gt. Hunds.			
Eggs in shell . . .	23,015,370	24,964,393	26,560,914	16,222,078	17,856,187	16,390,735

* Revised figures. † Subject to revision.

‡ Including Haricot, the different kinds not being separately distinguished.

§ Including Veal and other descriptions of Pork (Hearts, Livers, and Kidneys, &c.)

37,000 tons down at 181,000 tons and from Canada 52,000 tons less at 17,000 tons. Roumania, however, sent 111,000 tons of barley, or half as much again as in 1929, while Russia exported 296,000 tons to us as against none in the previous year. Prices were at an extremely low level, and in spite of the substantial rise in imports, the total declared value was over £900,000 lower at £4,609,000, or not much more than half the average value over the period 1924–28. The value per ton of barley imported in 1930 was only £6 as against about £8 and £10 5*s*. respectively in the two preceding years.

Arrivals of *Oats* also were much larger, the total amount received being 483,000 tons as against 346,000 tons in 1929, and was, in fact, the heaviest since 1924. Argentina's quota rose from 94,000 tons to 112,000 tons, but the United States, Canada and the Irish Free State sent rather less. Imports from all other sources showed a considerable advance, Russia and Germany being mainly responsible with increases of 138,000 tons and 28,000 tons respectively. The total declared value dropped by about 12 per cent. to £2,414,000 and the average tonnage value by over 35 per cent. to £5.

Receipts of *Maize* were a little lower at 1,715,000 tons and were much the same as the annual average over the five years 1924–28. Argentina sent us 1,121,000 tons as against 1,210,000 tons in 1929, while arrivals from the United States dropped by over 180,000 tons to under 500 tons. On the other hand, Roumania consigned 224,000 tons, as compared with only 8,000 tons in the previous twelve months. Quotations for maize were exceedingly low during 1930 and the tonnage value came out at no more than £5 15*s*. per ton, as compared with £8 15*s*. in 1929.

Meat.

Imports of dead meat as a whole were about 6 per cent. greater in 1930 than in 1929, the total being 1,555,000 tons as against 1,456,000 tons, and an average of 1,518,000 tons during the preceding five years. Receipts of *Beef* were a little less at 581,000 tons, but the total declared value showed a relatively much more pronounced drop, the £30,096,000 representing a decrease of approximately 4 per cent. Argentina sent 386,000 tons of chilled beef as compared with 409,000 tons in 1929, but rather heavier supplies came from other sources. Of the frozen beef, consignments from New Zealand and Uruguay were rather greater, but Australia and the Argentine shipped a little less on the year.

Arrivals of frozen *Mutton and Lamb* were unusually heavy the 328,000 tons received representing an increase of 13 per cent. over the former year. New Zealand's quota rose from 137,000 tons to 165,000 tons, Australia and Uruguay also despatching larger quantities. The total declared value was about 4 per cent. higher at £20,303,000, which compares with £19,752,000 during 1924–28.

Following a decline of fully 6 per cent. in *Bacon* imports between 1928 and 1929, arrivals in 1930 rose by about 11 per cent. to 459,000 tons, this total being the highest recorded in any post-war year. Consignments from Denmark amounted to 306,000 tons as against 249,000 tons in 1929, while Sweden sent over 8,000 tons more at 27,500 tons. Imports from most other sources were lower on the year. *Hams* were imported to about the same extent as in 1929, the bulk of the supplies coming from the United States. The Irish Free State sent us 14,000 tons of *Fresh Pork* during the period under review, or a trifle less than in 1929.

Dairy Produce.

Receipts of *Butter* continued to increase, the 341,000 tons arriving in 1930 representing a rise of about 21,500 tons or 7 per cent. Since 1927, imports of butter have advanced by fully 50,000 tons or 17 per cent. As compared with 1929, arrivals in the year under review from Australia and New Zealand combined were greater by 22,000 tons at 126,000 tons, while there were heavier consignments from Denmark, Sweden and the Argentine also. Smaller quantities were sent by the other countries. The total declared value fell by as much as £7,800,000 to £46,907,000.

Cheese imports were 6,000 tons greater at 156,000 tons, New Zealand sending 98,000 tons as against 90,000 tons in 1929. There were, however, minor decreases in supplies from other sources. The total value of the imports was over £1,300,000 lower at £12,603,000.

Receipts of *Condensed Milk* were a trifle smaller at 130,000 tons and the value fell by £471,000 to £4,314,000.

Imports of *Eggs in Shell* amounted to 26,561,000 great hundreds, as compared with 24,964,000 great hundreds in 1929 and 26,466,000 great hundreds in 1928, but the total declared value was much lower at £16,391,000. Denmark and Poland consigned over one million great hundreds more than in 1929, while imports from the Netherlands also showed a substantial increase. Arrivals from Russia, the Irish Free State, Belgium and France, however, were smaller on the year. As regards the total supplies from the various countries, Denmark sent 6,729,000 great hundreds as compared with 5,573,000 great hundreds in 1929, the Irish Free State 4,781,000 as against 5,015,000, the Netherlands 3,681,000 as against 3,169,000, Poland 3,613,000 as against

2,385,000, Belgium 2,334,000 as against 2,962,000, and China 1,715,000 as against 1,624,000. Russia consigned a mere 85,000 great hundreds as compared with 608,000 great hundreds in the preceding year, and France 659,000 as compared with 868,000.

Miscellaneous Agricultural Produce.

As regards *Live Animals for Food,* imports of cattle rose from the 750,000 head recorded in 1929 to 841,000 in 1930. Sheep and lambs showed a further drop of 18,000 to 567,000, but arrivals of pigs totalled 415,000 as compared with 311,000 in 1929. All but about 5,500 of these live animals came from the Irish Free State.

Receipts of *Potatoes* were roughly 75,000 tons smaller on the year at 5,791,000 tons, which compares with the relatively high figure of 9,521,000 tons imported during 1928. France, with 111,000 tons, Spain with 47,000 tons and the Channel Islands, with 52,000 tons, all consigned smaller quantities of potatoes than in the preceding year, but shipments from the Netherlands and Germany were greater at 46,000 tons and 13,000 tons respectively. In 1929, Germany sent less than 200 tons of potatoes to us.

Total Imports.

It is of course impracticable in a review such as this to attempt any precise valuation of the total imports of the principal agricultural products into Great Britain and Northern Ireland, but the following data may serve as a guide to the general distribution of the costs involved. During 1930, approximately £274 million was spent on such imports, of which grain and meal were responsible for £67 million, meat (including £18 million for live animals for food) £128 million, dairy and poultry produce £76 million, and potatoes rather over £2½ million. Of the total expenditure, roughly £150 million (55 per cent.) was in respect of produce from foreign countries, £70 million (25 per cent.) for that from our Overseas Dominions, and £27½ million (10 per cent.) for Irish Free State produce. The remaining £25 million represents the value of imports from countries not separately distinguished in the Trade Returns.

R. E. Stanley.

52 Culmstock Road,
Clapham Common,
S.W.11.

THE EARL OF COVENTRY.

By the death of the Earl of Coventry on March 13, 1930, the Royal Agricultural Society lost one of its oldest members, his election having taken place on April 1, 1863. Lord Coventry was certainly the oldest member of council in years although not in period of service, the Hon. Cecil Parker having preceded him on the council by four years—1881 as compared with 1885—and both have been Trustees for many years, each having filled the presidential chair. The year of Lord Coventry's presidency was 1899 when the Show was held at Maidstone. His Lordship took an active part in the work of the Society, having served for many years on the Stock Prizes and Judges' Selection Committees. He was born on May 9, 1838, the day of the establishment of the English Agricultural Society, as the R.A.S.E. was first known.

For half a century or more Lord Coventry was a prominent figure in agricultural circles. The industry appealed strongly to him and it was ever his wish and endeavour to render what service was in his power to promote its success. Every section of the industry had in him an eager friend, but he identified himself chiefly with live-stock interests. This was only natural as he was himself a studious and successful breeder of Hereford cattle and in addition evinced a lively interest in the breeding of thoroughbred and hunter horses. He was at his death the oldest member of the Jockey Club. The Croome Court herd of Hereford cattle had a long term of conspicuous success. The herd was founded in 1875, after the suitability of the breed for his Lordship's farm had been proved, and it was continued until his death, although latterly on less noted lines. Lord Coventry always liked to have the best, and in laying the foundation of his he drew upon the famous Adforton herd among others for the nucleus. The blood of the historic strains secured at the initial stage was retained and used with advantage in developing the Croome Court herd and many of the finest show cattle owned by the late peer blended in their veins the choicest strains of the time.

No breed of cattle ever had an owner who devoted greater personal care upon the management and registration of his animals than the Hereford had in the late Lord Coventry. The Croome Court herd, it may be said, was directed and regulated exclusively by the Earl himself. It is known that every animal exhibited at show or sale was entered in his Lordship's own handwriting, and this was truly indicative of the close attention which Lord Coventry paid to every detail connected with the noted herd he founded and maintained with notable success at Croome Court.

The commercial merits of his cattle were carefully assessed by Lord Coventry. We are apt sometimes to flatter ourselves that the early maturing properties of cattle have been cultivated wholly in our time. In 1886, Lord Coventry, writing of Herefords on his farm, gave some particulars of his steers that would do full justice to the most responsive cattle of to-day. His steers, he wrote, " are sold to the butcher at from one year and six months to two years old ; one realised £34 15*s*. at Tewkesbury Christmas Market, not quite one year and ten months old." It is clear from this that the improvement of Hereford cattle on modern lines had begun even before the alteration of class ages was made by the Smithfield Club, and Lord Coventry was among the first to perceive the wisdom of accelerating maturity by heredity as well as by skilful feeding and attentive management.

C. J. B. M.

THE HON. CECIL T. PARKER.

To few men who have not held great positions in Public or Political life is given the opportunity to make or mar the ordinary everyday lives of numbers of their fellow-men. Cecil Parker, however, enjoyed this opportunity to an unusual degree, and used it to the full benefit of all with whom he came in contact.

Not only directly through his own efforts, but also indirectly through the many pupils whom he taught and placed during the twenty-eight years he was agent for his uncle, the Duke of Westminster, at Eaton. Of the sixty-nine pupils he trained, at least twenty at the present moment are in control of the administration of very large acreages of agricultural land in this country. His death will conjure up many memories of conflicting emotions : a tall commanding presence, a manner which at times could be austere and almost brusque, instilling a sense of the discipline he had imbibed from the distinguished regiment in which he had served, yet all humanised by a fund of humour and a deep-seated sympathy. His zeal for his work as an agent was as burning as was his determination inflexible to hold the balance of justice evenly between employer and employee, between landlord and tenant ; he had an immense love for field sports, but always subordinated indulgence in them to duty ; he never left anyone in any doubt as to his opinion, which was expressed in unmistakable terms : there was no " sail-trimming " nor ambiguity about Cecil Parker. His whole character was tersely and tritely summed up in the term by which he was always referred to by tenants and estate employees—" The Honorable." Nothing gave him greater pleasure than to hear of any success of a former pupil of his, and one of the most delightful traits of his character was his unfailing interest in their future careers, and no trouble was too great for him to take on their behalf.

The Royal Agricultural Society of England filled a large place in his life, and he gave many years of valuable service as a Member of the Council and as a Vice-President and Trustee. In 1918 he filled the highest office it is possible to hold, that of President, which has sometimes been called the Blue Ribbon of Agriculture. He graduated in every department of the Royal Show and ultimately in 1893 was appointed Hon. Director of this National Agricultural Exhibition, a position he filled with marked administrative ability for over five years. At one period practically the whole of the Assistant Stewards at the Show were either his present or past pupils. He was the means of instilling and inspiring enthusiasm for the work of the Society to an unusual degree.

By the combination of a forceful personality and a strong character he carved for himself an outstanding position in the Land Agency sphere of agricultural life, and under the happy conditions which existed on well-managed estates before the relentless march of democracy set out to destroy them.

All who love the real essentials of agricultural life owe a deep debt of gratitude to Cecil Parker, who was not only a great Land Agent but also a great country gentleman.

A. G. W.

MR. ERNEST MATHEWS, C.V.O., LL.D.

With the passing of Mr. Ernest Mathews at Elmodesham, Amersham, Bucks, on November 25, 1930, the Society lost one of its oldest members and most faithful supporters. Born on May 17, 1847, and educated at Harrow and Brasenose College, Oxford, he was in his earlier days a good cricketer, gaining his colours at Harrow and playing for his University at Lord's in 1868 and 1869.

Having married Miss Florence Georgina, third daughter of the late Thomas Tyrwhitt-Drake, of Great Shardeloes, near Amersham, in 1873, Mr. Mathews farmed for many years at Little Shardeloes, being well known as a breeder of Jersey Cattle and Southdown Sheep.

Joining the R.A.S.E. as member in 1881, he became a member of Council in 1904, being re-elected in 1905 under the new Charter as the member for Buckinghamshire, and he was Steward of Dairying at the last Park Royal Show in this year.

In 1906 he was appointed Chairman of the Dairy and Produce Committee and he retained this position as well as acting as Steward of Dairying up to his retirement in 1928.

In addition to serving on the Finance, Journal and Education, Veterinary, Stock Prizes, Selection and General Purposes, and Research Committees, he was a member of the National Agricultural Examination Board from 1908 till 1928, being twice Chairman of the Board in 1920–1 and 1923–5. Mr. Mathews also represented the Society at the National Institute for Research in Dairying, of which he was Chairman; on the Agricultural Education Conference; the Oxford and Reading Joint Committee, being a Member of Council of Reading University; and on the General Committee of the World's Dairy Congress in 1928.

When the Royal Show was at Cambridge in 1922, the University conferred upon Mr. Mathews the honorary degree of LL.D., the Public Orator at the special congregation referring to his interest in Jersey Cattle, music and cricket; whilst during the same year he was appointed a Commander of the Royal Victorian Order.

In 1924 he was elected President of the Society, the Show being held at Leicester.

In 1900, and again in 1922, Mr. Mathews was President of the English Jersey Cattle Society, and he was an honorary member of the Royal Jersey Cattle Society, being well known and very popular on the Island.

As a sheep breeder he was President of the Southdown Sheep Society in 1912 and Honorary Treasurer for many years; his flock was started in 1888 with ewes purchased from his father-in-law, and from Sir N. W. G. Throckmorton, Viscount Hampden and Messrs. Murrieta of, Wadhurst; at its dispersal in 1898 good prices were realised, a shearling ram making 50 guineas.

Mr. Mathews was one of the originators of milking trials and butter tests at agricultural shows, having acted as steward and judge on very many occasions; indeed, it was as far back as 1890 when in conjunction with the late Mr. Richardson Carr he organised the famous "one-day show" trials at Tring. Whilst from 1905 to 1928 he conducted the trials in the Royal Showyards, which are still carried on on the lines laid down by him.

Realising that nowhere else in England was the milk of so many different breeds of cattle available for testing and experimental purposes, Mr. Mathews made the fullest use of these opportunities, and though he recognised that show-yard milk is produced under somewhat abnormal conditions, he never ceased in his efforts to gain useful knowledge from the material at hand, and to make the Dairy as valuable as possible from an educational point of view. His gentle kindly nature endeared him not only to the staff but to all who visited the dairy, and great was his delight when an unsuspecting visitor, on being asked to judge several lots of butter, awarded the palm to a carefully prepared and highly coloured sample of margarine.

The benefit of his hard work and keenness as Steward of Dairying for so many years, even to the great age of 81, will long remain to the benefit of the Society in particular and of the dairying industry in general.

In addition to the many agricultural and dairying interests above mentioned, Mr. Mathews was for some time Hon. Treasurer of the Royal Veterinary College, and his musical interests were equally keen and noteworthy.

He was a very able organist; for long a choirmaster; a Vice-President of the Royal Academy of Music, and Chairman of the Associated Boards of the Royal Academy and Royal College of Music.

Altogether as sportsman, musician, agriculturist and dairying expert, he was a man of many parts, an ornament to the Society for which he worked so hard, and where he was so greatly liked and respected. In conclusion, we may be permitted to quote from the obituary notice in the *Scottish Farmer*, written by his friend the late Archibald MacNeilage, who said, "It would have been hard to find a finer specimen of the real English gentleman than Ernest Mathews. To all who knew him his passing will be a matter of profound and lasting regret. He was a good man."

W. B.

MR. CHARLES JAMES BLACK MACDONALD.

It falls to my lot, albeit his senior in years, to pen this tribute to the memory of the late Charles James Black Macdonald, who since 1927 held office as Editor of this Journal and died with startling suddenness on Monday, November 10, 1930.

Mr. Charles J. B. Macdonald was the youngest of four brothers, each of whom made his mark in agricultural journalism. Their home was in Glenrinnes, Banffshire, and there, in the house of a small farmer, our friend was born 66 years ago. The father of the family was one of the hard-working type of small farmers who successfully carried on operations in what have now become known as "family farms." The mother was a sister of two gentlemen who became well known in the north-east of Scotland. One was Provost James Black of Elgin, joint proprietor of the *Elgin Courant*, after whom Charles was named; the other was Professor of Hebrew in Aberdeen University. Like his brothers, Charles J. B. served his apprenticeship in the office of the *Elgin Courant*. Thereafter he was for a time associated with his brother James, first on the staff of the publications of Vinton & Co., Ltd., London, including the *Live Stock Journal*, and afterwards as Editor of the *Farming World*, Edinburgh. Returning to London, he became associated with the *Field* and the *Morning Post*, and on the death of Dr. Fream, was appointed Agricultural Correspondent to *The Times*.

In this last office, which he held for many years, Charles Macdonald built up a sound reputation. He came to it in the fulness of his powers and after an experience both north and south of the Border which was probably unique. As a result he gave to the Monday agricultural page of *The Times* a distinction and authority in its own way unparalleled. This was especially marked in post-war years. When, following on the repeal of the Corn Production Acts, the slump in prices took place, Mr. Macdonald instituted an inquiry into the condition of arable farming and, on the basis of the information received from all quarters, wrote a series of articles, diagnosing the disease in a fashion which renders unnecessary any further detailed analysis. His own experience as a tenant farmer in the occupancy of West End Farm, Cheddington, Bucks, enabled him to write with full sympathy for those most hardly hit by the depression. That series of articles was the means of directing attention to the Agricultural Correspondent of *The Times* as a man of outstanding eminence in agriculture, and in 1927 he was entrusted with the duties of Editor of this *Journal*. His training as a journalist and his experience as a student and in practical farming enabled him to select topics and lines of treatment combining in an unusual degree what is aimed at in the motto of the Royal Agricultural Society.

Mr. Macdonald wielded a facile pen, writing correct Anglo-Saxon, and having command of a vocabulary which suited admirably as the channel of his thought. A clear rather than a brilliant thinker, his great aim, alike as a reporter in his earlier days and as a leader of thought in his later days, was accuracy. He took infinite pains with his work, and I cannot recall an instance in which his opinions as a ringside showyard critic or as an exponent of arable cultivation were seriously challenged. That is not to say that the remedies for agricultural ills which suggested themselves to his mind were universally endorsed ; it does mean that his survey of the facts upon which he based his conclusions was never seriously called in question. Like all his brothers, he was a good judge of live stock, perhaps excelling in his knowledge of Aberdeen-Angus cattle and their crosses. Consequently, his summings up, say of the Smithfield Club Shows and their results, were usually well-balanced and shrewdly hit the happy medium. This gift would seem to be almost intuitive in the men from Strathspey, and in Charles Macdonald it was in full exercise.

Outstanding as were the characteristics and abilities of Charles Macdonald as an agricultural journalist, his personal qualities as a man and as a friend were even more marked. In his own nature singularly free from self-seeking and anything that savoured of pride, his admitted supremacy in his profession was on all hands viewed without jealousy. In intercourse with men he maintained a uniform equipoise of dignity and courtesy. Knowing most of the leading cattlemen and shepherds by name, he conversed with them on the same terms of affable comradeship as marked his converse with the owners and exhibitors of stock in all ranks of society. His counsel and advice were frequently invoked and were ungrudgingly rendered; he never volunteered criticism or pressed his opinions upon others, but when invited to offer criticism or express opinion, he responded with force and decision. He excelled as an adviser at the Committee table rather than as a speaker in public, and in every walk of life he adorned the position to which he was summoned. More brilliant agricultural writers than Charles Macdonald there may have been—his eldest brother, William, was the most brilliant in our experience—but a more lovable and attractive personality, in a review of fifty years, I have never known.

A. McN.

THE MANCHESTER SHOW, 1930.

Before proceeding with the details of the Report of the Royal Show held at Manchester, it may be interesting to describe the circumstances which brought about its holding in that city in 1930.

Manchester was the venue of one of the War Shows held in the year 1916, and although that was a most successful one and profitable to the Society, yet the Council felt that it was being held under exceptional circumstances and that the shadow of the War was overhanging all its activities.

In consequence of this it was generally agreed that after the conclusion of the War the R.A.S.E. should be afforded an early opportunity of again holding its Country Meeting in Manchester.

The actual invitation to the Society for 1930 was provisionally made during the progress of the Royal Show at Chester in 1925. Mr. J. H. Dickson, the Town Clerk of Chester, had invited the Town Clerk of Manchester, Mr. Percy Heath, to attend the Chester Show, as they were old friends, and during the course of a conversation with Lord Daresbury, the Honorary Director, the question of holding the Royal Show at Manchester was discussed. It was then felt that some years must elapse between that time and any Show that could be held at Manchester.

After some preliminary negotiations it was decided that 1930 would be about the earliest period at which the Royal Show could again visit Manchester.

Mr. Heath threw himself wholeheartedly into the project, the City Council issued the requisite invitation, and the Society was fortunate in being able to secure exactly the same site as was utilised in 1916.

The death of Mr. Heath in the year 1928 rather upset the arrangements provisionally agreed upon, but Mr. J. Herbert Hall, who had been joint Honorary Secretary of the Local Committee formed in 1916, agreed to shoulder the major portion of duties of the Secretary of the Local Committee in 1930, and a very great measure of the success which attended the Manchester Show must be ascribed to the personal efforts and popularity, as well as to the hard work and energy, of Mr. Hall.

Perhaps it would not be out of place to here state that the site at Withington, Manchester, which has been utilised in the years 1916 and 1930, has now become the property of the Manchester Corporation, who propose to develop it as an open space and permanent Exhibition Ground ; so that it is quite possible that in future years, if the Society is invited to hold its Country Meeting in Manchester, this site will still be available. It is an excellent one bounded on three sides by good broad main roads, and has a supply of gas, water and electricity already laid on.

Eight Shows have been held by the Society in the County Palatine of Lancaster. Manchester has now been visited on four occasions, Liverpool three times, and Preston once. With the single exception of the first Meeting held at Liverpool in 1841, these Lancashire Shows have all added substantially to the funds of the Society.

In the statement below comparative figures are given of the four Shows at Manchester.

Year	President	No. of Implement Stands	Entries of Live Stock	No. of Persons admitted	Result + = Surplus
					£
1869	H.R.H. The Prince of Wales	395	1,315	189,102	+ 9,153
1897	H.R.H. The Duke of York .	489	2,688	217,980[1]	+ 4,074
1916	7th Duke of Richmond and Gordon	239	2,338	149,197	+ 4,481
1930	H.R.H. The Duke of Gloucester	443	3,137	100,918	+ 2,858

[1] Including 22,621 on the sixth day.

With the Champion and Special Prizes, Challenge Cups and Medals, the total value of the prizes offered for competition this year was £15,690. Towards this sum the Manchester Local Committee contributed generously, as also did the various Breed Societies.

As will be seen from the comparative statement below, the entries of horses, cattle, goats, pigs and poultry were fewer, while those of sheep were a dozen more, than at Harrogate in 1929.

Classification was included in the prize-list for Shetland ponies, South Devon cattle, South Devon and Black-faced Mountain sheep, and Gloucester Old Spot pigs; but, entries not being tendered in sufficient numbers, the classes were subsequently cancelled and the fees returned.

The statement on p. 180 compares the Prizes, Classes and Entries of the several breeds of stock at the two Manchester Shows of 1916 and 1930.

STATEMENT OF ENTRIES FOR THE 1930 SHOW, COMPARED WITH PREVIOUS YEARS.

Entries of Live Stock, Poultry and Produce.

	Manchester, 1930	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Newcastle, 1923	Manchester, 1916
Horses . . .	512[1]	634[1]	607[1]	429[1]	614[1]	658[1]	768[1]	641[1]	515[1]
Cattle . . .	1,164[1]	1,263[1]	1,261[1]	1,214[1]	1,640[1]	1,565[1]	1,302[1]	1,185[1]	803[1]
Goats . . .	48[1]	92[1]	61[1]	40[1]	67[1]	56[1]	60[1]	68[1]	92[1]
Sheep . . .	735	723	591	524	724	711	633	728	607
Pigs	678	691	833	664	986	932	1,212	1,048	321
Total . .	3,137	3,403	3,353	2,871	4,031	3,922	3,975	3,670	2,338
Poultry . . .	901	943	1,036	887	1,111	970	1,157	1,189	1,519
Produce. . .	506	363	365	350	356	612	300	436	565

[1] Exclusive of Double Entries

Shedding in Implement Yard (in Feet).

Description of Shedding	Manchester, 1930	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Newcastle, 1923	Manchester, 1916
	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
Ordinary . .	2,690	2,995	3,035	2,875	3,360	3,985	4,145	4,280	3,300
Machinery . .	4,515	4,170	5,466	3,855	4,090	3,380	3,685	4,230	1,290
Special . . . (Seeds, Fertilisers &c.)	3,488	3,686	3,501	2,756	3,420	3,575	3,867	3,392	2,480
Total . . (Exclusive of Open Ground Space)	10,693	10,851	12,002	9,486	10,870	10,940	11,697	11,902	7,070
No. of Stands .	443	431	467	369	446	438	455	453	239

COMPARATIVE STATEMENT OF ENTRIES, &c.,
AT TWO SHOWS HELD AT MANCHESTER IN 1916 AND 1930.

HORSES, CATTLE AND GOATS	1916		1930	
	Classes	Entries	Classes	Entries
HORSES :—				
Prizes . . .		*£2,786*		*£3,470*
Shires	11	93	11	68
Clydesdales . . .	9	43	5	22
Suffolks	8	32	12	52
Percherons . . .	—	—	10	56
Hunters—				
Breeding Classes .	12	99	10	77
Riding Classes . .	5	60	7	103
Polo and Riding Ponies—				
Breeding Classes .	5	34	5	42
Hack and Riding Ponies . . .	4	27	3	37
Cleveland Bay or Coach Horse. .	2	7	—	—
Hackneys	7	26	—	—
Hackney Ponies . .	2	4	—	—
Welsh Ponies . . .	4	13	2	8
Shetland Ponies . .	2	19	2	—[3]
Children's Ponies. .	—	—	3	24
Driving Classes . .	6	41	10	68
Pit Ponies. . . .	3	—	—	—
Dray Horses . . .	8	45	—	—
Turnouts	3	89	—	—
Jumping	5	86	5	211
Total for HORSES .	96	718[1]	85	768[1]
CATTLE :—				
Prizes . . .		*£2,731*		*£6,318*
Shorthorn . . .	13	176	11	89
Hereford	8	61	9	59
Devon	6	23	5	24
Sussex	5	22	5	27
Welsh	8	19	6	26
Longhorn	4	11	2	8
Aberdeen-Angus . .	6	47	6	75
Belted Galloway . .	—	—	5	40
Galloway	5	15	4	20
Park Cattle . . .	—	—	2	10
Dairy Shorthorn . .	5	90	10	184
Lincolnshire Red Shorthorn . . .	8	42	7	40
South Devon . . .	4	19	5	—[3]
Red Poll	6	42	7	93
Blue Albion . . .	—	—	6	30
British Friesian . .	6	55	12	148
Ayrshire	3	6	4	34
Guernsey	7	62	7	63
Jersey	8	77	7	89
Kerry	3	9	5	30
Dexter.	3	25	5	30
Dairy Cows . . .	4	27	—	—
Milk Yield . . .	12	106	11	110
Butter Test . .	3	69	2	62
Total for CATTLE .	127	1,003[1]	143	1,291[1]
GOATS :				
Prizes . . .		*£60*		*£110*
Inspection Classes .	9	80	9	44
Milk Yield . . .	2	34	2	38
Total for GOATS .	11	114	11	82[1]

SHEEP, PIGS, POULTRY AND PRODUCE	1916		1930	
	Classes	Entries.	Classes	Entries
SHEEP :—				
Prizes . . .		*£1,878*		*£2,283*
Oxford Down . .	5	88	5	30
Shropshire . . .	6	55	6	41
Southdown . . .	6	63	6	64
Hampshire Down .	6	43	5	55
Suffolk	6	23	6	59
Dorset Down . .	3	15	3	13
Dorset Horn. . .	4	15	3	15
Wiltshire or Western Horn	—	—	3	16
Ryeland	5	26	5	32
Kerry Hill (Wales) .	3	17	5	51
Clun Forest . . .	—	—	2	10
Lincoln	6	60	5	41
Leicester . . .	4	14	4	32
Border Leicester .	3	17	4	22
Wensleydale. . .	6	21	5	44
Lonk	3	14	2	13
Derbyshire Gritstone	2	5	—	—
Kent or Romney Marsh	6	59	6	62
Cotswold. . . .	4	14	—	—
Devon	2	2	—	—
South Devon . .	5	14	3	—[3]
Dartmoor . . .	3	9	2	9
Exmoor	3	5	—	—
Cheviot	3	22	3	13
Swaledale . . .	—	—	4	18
Herdwick . . .	3	12	3	14
Welsh Mountain .	4	30	5	43
Black Welsh Mountain	—	—	2	11
Black-faced Mountain	2	14	2	—[3]
Total for SHEEP .	103	607	90	711
PIGS :—				
Prizes . . .		*£782*		*£1,772*
Large White. . .	8	77	8	172
Middle White . .	6	57	8	126
Tamworth . . .	6	23	6	38
Berkshire . . .	6	56	8	80
Wessex Saddleback.	—	—	6	35
Large Black . . .	6	73	8	93
Gloucestershire Old Spots	—	—	6	—[3]
Lincolnshire Curly-Coated. . . .	6	35	—	—
Cumberland . . .	—	—	6	30
Essex.	—	—	6	36
Long White Lop-Eared	—	—	6	39
Total for PIGS . .	38	321	68	658
POULTRY :—				
Prizes. . .		*£482*		*£526*
Entries . .	152	1,519	115	901
PRODUCE :—				
Prizes. . .		*£546*		*£443*
Entries . .	90	565	44	506

Grand Totals for LIVE STOCK, POULTRY, PRODUCE, &c., in 1930 } **565 Classes . 4,917 Entries . £15,690[2] Prizes**

[1] Animals exhibited in more than one class are here counted as separate entries.
[2] Including £577 for Flower Show, £60 for Butter-making Competitions and £130 for County Classes.
[3] Classes cancelled under regulation of Prize Sheet.

Later in the present volume will be found a descriptive report, with illustrations, on the live stock exhibited at Manchester by the late Mr. C. J. B. Macdonald. Full particulars of the Awards of the Judges are, in accordance with the usual custom, printed in the Appendix.

Implements, Machinery, &c., which occupied 443 stands (twelve more than in 1929), made a comprehensive display, although the actual area of shedding occupied was slightly less than at Harrogate. A report by the Judges of Miscellaneous Implements is also included in this volume.

In spite of the dry weather which preceded the Show, there was no shortage of exhibits in the Horticultural section, except perhaps in the Rose Classes, which, as on previous occasions, formed one of the most attractive features of the showyard.

The Produce section had more entries than in the previous year, there being no fewer than 315 exhibits of Cheese. Those of the Lancashire and Cheshire varieties made a particularly strong show.

Rain was falling when the exhibition opened on Tuesday, July 8, and during the earlier part of the day there were some heavy showers, but conditions improved later. As usual, the main business was the judging of breeding stock, which occupied the whole of the day.

For the first time in the history of the Society, its Royal President travelled by air to attend the Show. H.R.H. the Duke of Gloucester flew from Northolt Aerodrome, near London, to the airport at Chat Moss, where he was received by the Lord Mayor of Manchester. His Royal Highness then drove to the show-ground, at the gates of which he was met by the Honorary Director, Lord Daresbury, and conducted to the Royal Pavilion.

Later His Royal Highness made a tour of the ground under the guidance of his Lordship.

On the Wednesday H.R.H. the President again attended the Show, having spent the night at Chatsworth as the guest of the Duke of Devonshire. During the forenoon he took the chair at a meeting of the Council, and later presided at the General Meeting of Governors and Members in the Large Tent. In the course of his opening speech His Royal Highness said :—

"I cannot proceed to the formal business of the meeting without expressing the great regret all the members feel at the retirement of Lord Daresbury from the post of Honorary Director after twenty-five years' directorship, during which time he has seen the Show grow from success to success. His interests have been wrapped up in the Royal Show, and we cannot leave this meeting without expressing to him our grateful thanks and our sense of sadness that we shall no longer see him managing and organising this great undertaking. I would, however, ask you to give Mr. Roland Burke, the new Honorary Director, the assistance and support you have rendered to Lord Daresbury, which, I know he realises, it will be necessary for him to enlist if he is to follow in the footsteps of Lord Daresbury, and keep this great Show up to the standard you all expect."

Under the auspices of the National Association of Young Farmers' Clubs, the Ninth International Dairy Cow Judging Competition was decided in the showyard. Teams representing the United States of America, Canada, and England and Wales took part. The "Home" team was awarded the Gold Challenge Cup, which was formally presented to the winners by the Duke of Gloucester.

His Royal Highness presided at an official luncheon in the Royal Pavilion, after which he continued his inspection of the Show.

On the evening of Wednesday, July 9, the Lord Mayor of Manchester entertained the Members of Council and the Stewards of the Show to a Banquet in the Town Hall, when congratulatory speeches were made on the success which had attended the endeavours of the Local Committee in promoting the success of the Show.

On the Thursday there was an addition to the events in the Large Ring. A detachment of the Royal Scots Greys gave a Musical Ride, followed by a Trick Riding and Vaulting Display. These performances were repeated on the remaining days of the Show.

On Saturday judging took place of the horses and cattle exhibited in special County Classes, organised by the Royal Lancashire Agricultural Society.

Throughout the Show there were daily competitions for shoeing smiths, conducted by the National Master Farriers' and Blacksmiths' Association.

Demonstrations on Poultry Trussing and on Pruning of Fruit Trees were given at the Lancashire County Council pavilion.

In the Hives and Honey section there were lectures and demonstrations as in former years.

The Ministry of Agriculture and Fisheries occupied a capacious building, where demonstrations were given daily in connection with Marketing and National Mark propaganda.

Tables are given on p. 183, in which will be found particulars of the admissions to the Show on each of the five days. The grand total was 100,918, Saturday's gate—the largest of the week—being 38,025. Comparative figures for previous shows are also included.

The Royal Automobile Club again undertook the parking of cars and the management of the Motor Parks. Their task was rendered much easier by the friendly co-operation of the Manchester Police and by the fact that access to the Parks was easily gained from the main roads surrounding the showyard.

Admissions by Payment at Manchester, 1930.

Day of Show	11 a.m	1 p.m.	3 p.m.	5 p.m.	Day's total
Tuesday (10s.) . .	813	1,685	2,239	2,443	2,483
Wednesday (5s.) .	3,666	8,496	12,388	14,118	14,352
Thursday (3s.) . .	6,194	17,760	25,746	29,981	31,115
Friday (3s.). . .	3,674	8,173	12,378	14,357	14,943
Saturday (1s.) . .	7,129	12,129	25,553	36,499	38,025
Total for Show					100,918

Total Daily Admissions at the 1930 *Show, compared with the previous six Shows and the Manchester Show of* 1916.

Day of Show	Manchester, 1930	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Manchester, 1916
First . . .	2,483	3,884	2,388	1,214	3,568	3,352	2,273	4,067
Second. .	14,352	23,598	18,244	7,515	13,777	27,215	16,204	29,145
Third . . .	31,115	51,252	44,293	19,456	19,869	43,981	35,347	36,938
Fourth. . .	14,943	18,924	14,775	10,528	11,902	20,682	14,845	40,874
Fifth . . .	38,025	26,359	28,977	23,654	24,744	17,650	16,862	38,173
	100,918	124,017	108,677	62,367	73,860	112,880	85,531	149,197

Again the Y.M.C.A., through their Manchester Branch, undertook the organisation of the provision of refreshments, recreation, reading and writing facilities for the Stockmen attending the Show, but this year, in addition to concerts, &c., athletic sports were arranged and prizes were provided by the local branch. These were presented on the Friday evening before the commencement of the final Concert in the showyard, and the Stockmen expressed their thanks, in their own way, to the General Secretary of the Manchester Y.M.C.A., and to all his helpers, for the work they had done in making the period spent by them at the Royal Show more pleasurable in every way.

I should be lacking in duty and courtesy if I did not make a special reference to the Royal Lancashire Agricultural Society. In accordance with the usual custom, this Society withheld its Show, which had already been arranged to take place at

Liverpool, and threw in its lot wholeheartedly with the Royal Agricultural Society.

The Members of the Royal Lancashire Agricultural Society were accorded the privileges of Membership of the "Royal" Society, but on no other occasion has this Society received such friendly help, given ungrudgingly by all the Officials of the Lancashire Society. Nothing was too great, and nothing too small for that Society to help in, and the Honorary Director and Members of the General Show Committee will always remember with gratitude the good feeling which existed between the Members of the Lancashire Society and themselves in connection with the Manchester Show.

I cannot conclude this Report without a reference to Lord Daresbury, the Honorary Director, who now retires after twenty-five years in that capacity.

I, personally, have had the privilege and pleasure of being associated with him for ten Royal Shows. It is not necessary for me to endeavour to add anything to that which has already been said and written about him, and it would ill become me to do so; but I would like to record my own personal thanks to his lordship, and the thanks of the Staff here for the very kind treatment they have received at his hands at all times, and to express the hope that he may be spared for many years to render valuable service to the Society in every way even although we may not see the result of his labours so prominently at future Royal Shows.

T. B. TURNER.

16 Bedford Square,
London, W.C.

LIVE STOCK AT THE MANCHESTER SHOW.

THE Live Stock Section was as definitely the central feature of the Manchester Show on July 8–12, 1930, as on any former occasion. It did not, of course, by any means, constitute the Show; but the animal classes are the pivotal element and the outstanding attraction. As the centre of a great national exhibition the collection of pure-bred farm animals at the fourth Manchester Show filled the part worthily alike in numbers, representation and merit. A few breeds failed to qualify in numbers of entries for the advantage of appearing at the premier Show of the year, but the blanks were not conspicuous or of great significance from a general point of view. An exhibition which comprises nine or ten breeds of horses and ponies; 20 breeds of cattle; 23 breeds of sheep; 9 breeds of pigs and several types of goats is entitled to be regarded as truly national in composition and character.

Respecting the quality of the stock there was no ground whatever for anything but satisfaction with the present and confidence concerning the future. The standards in sections and breeds were not uniformly high or pleasing, but the fluctuations did not exceed the usual in number or depression. Every year brings changes to encourage breed supporters in some cases, and in others, perhaps, to inspire criticism and possibly to induce serious reckonings respecting the position and future. The 1930 Show did not depart from the normal in that sense, but considering it in the comprehensive whole it reflected wonderful stability and enterprise in the animal husbandry of Great Britain. So long as the Manchester level can be maintained there will be no cause for anxiety concerning the future of this section of the national industry. Yet, while the merit of the exhibits was creditable and reassuring, it was clear that exhibitors were not perfectly happy in their experiences and outlook. The conclusion was forced upon one that the arresting character of the exhibition was in unwelcome contrast with the normal state of things in the industry. There have been complaints in former years of growing expense and decreasing income but not of equal persistency and gravity to those heard at Manchester. The ill-disguised difficulties of the owners did something to discount the cheerful feelings created by the very fine displays of animals paraded or penned at Manchester last July.

HEAVY HORSES.

The Shire breed regained the premier position in numbers as well as in catalogue order, while the quality of the exhibits elicited ready expressions of satisfaction from supporters. The classes were not all as well filled as they might have been, or would have been had there been a more generous market for heavy horses, but visitors saw at Manchester a truly representative exhibition of the modern Shire horse. The 68 entries included the customary variety in size, type and quality, but the class and championship awards indicated definitely the kind of animal that finds favour with the leading owners. The Shire is steadily improving in limb, action and hair without sacrifice of weight of body bone or body and the result is an animal that appeals to a wider and an exacting market. Mr. E. W. Webb's champion three-year-old stallion, Kirkland Black Friar, by Carlton Friar Tuck, is a handsome black and disported himself to advantage in the ring. Mr. Cumber's winning two-year-old followed him closely for the gold medal, after beating several promising colts in a strong class of his age. The yearlings also sustained the reputation of the breed worthily in size, maturity and quality.

The mares and fillies were exceptionally strong in merit, some of the best-known studs sending forward contributions of notable quality. Sir Gomer Berry was represented by a remarkable contingent and claimed both the championship and the reserve, as well as several first tickets. Llynclys Lady Loue, to which the championship was awarded, is a very fine specimen of the quality Shire. It may be thought that a two-year-old is lucky to beat a mature mare, but the brown daughter of Basildon Clansman bred in the famous Oswestry district was worthy of distinction. The success of the Pendley stud was, indeed, remarkable and is seldom equalled at a prominent show. The exhibits of the Duke of Devonshire, Sir Bernard Greenwell, and others illustrated the merits of the approved Shire.

The collection of geldings was impressive and reassuring.

The Clydesdale does not change notably and still looks unduly long in the leg and light in the body, although the quality of bone, action and feet is indisputable. No doubt the supporters of the famous Scottish breed know best what the market demands, but it is permissible to suggest that extended favour would be won if greater heed were paid to the characteristics that are usually associated with draught horses—weight and width of body and power of limb. But the Clydesdale has a strong following at home and abroad and it would be unwise to hastily forfeit a position already strong and apparently secure.

The champion animals were true to type and gave pleasing displays of free, easy action. Mr. James Kilpatrick's Craigie Beau Ideal, a yearling by Craigie McQuaid, is a smart bay and promises to develop into a stallion worthy of the noted stud he represented. The Messrs. Templeton's Benefaction did not easily concede the premier place to his young rival. Mr. Robert Dalziel's Rue May Queen, foaled in 1924, is a stylish black by Balcairn Footnote. Mr. Beck's two-year-old filly, Lane Snowflake, was a good reserve for the champion prize. In this case also the geldings constituted a strong and creditable class. The geldings, as often happens, appeared to show greater weight and hauling power than the stallions.

The classes of Suffolk Punches were extremely pleasing to owners of the East Anglian breed. The Suffolk is steadily changing in general character, like the Shire, without losing any of its traditional merits. The breed retains its weight of body and limb, but is improving in bone and action and is altogether justifying the increasing popularity that it enjoys. Mr. A. T. Pratt's champion stallion, Darsham Duke, is a handsome four-year-old of Capt. R. J. Catchpole's breeding and defeated notable

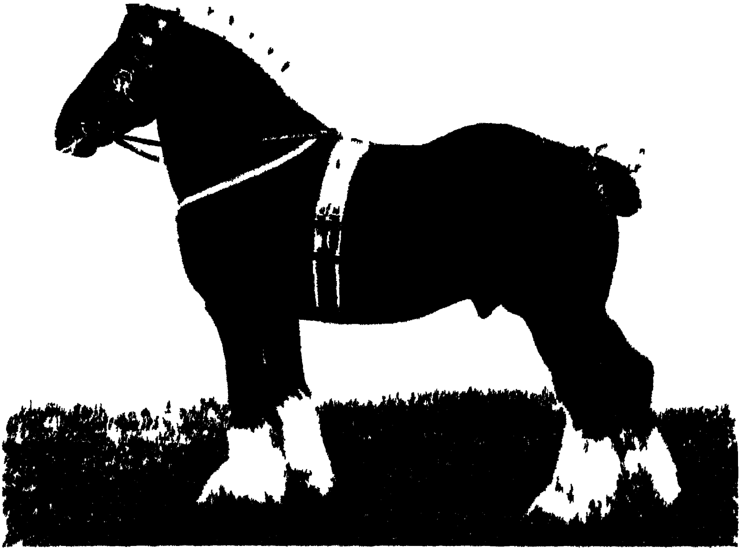

FIG 1 —SHIRE STALLION, "KIRKLAND BLACK FRIAR"
Winner of Champion Prize for best Shire Stallion, Manchester, 1930
Exhibited by MR E W WEBB

FIG 2 —SHIRE FILLY, "LLYNCLYS LADY LOVE"
Winner of Champion Prize for best Shire Mare or Filly, Manchester, 1930.
Exhibited by SIR GOMER BERRY, BART

animals to achieve his victory. Mr. Frank Sainsbury's reserve champion was bred in the Bawdsey stud and headed a good class of his age—three years old. The success of Mr. Owen H. Smith's three-year-old filly, Vivandiere, by Sudbourne Foch, in winning the female championship indicated growing approval of the fine bone and superb feet that add to the qualifications of this handsome young mare. The Messrs. Buck's reserve champion, the mare Sudbourne Gillie, is a matronly daughter of the famous Sudbourne Beau Brocade, and is still fresh and active. The studs of Mr. E. G. Pretyman, Mr. J. A. Berners, Mr. W. N. L. Champion and Sir Cuthbert Quilter also were successfully represented. The geldings in this case also formed a very fine collection combining weight and lasting quality in a high degree.

The Percherons again did themselves credit and also the studs they represented. The Messrs. Chivers sent forward such a formidable representation that their opponents had to be satisfied with what the Histon exhibits left for them. The handsome exhibits from such prominent studs as those of Mr. J. Pierpont Morgan, Lt.-Col. H. E. Hambro, Sir Merrik R. Burrell, Sir H. A. Hoare, Major Q. E. Gurney, Mr. E. Guy Fenwick and Major J. S. Courtauld made little impression on the extraordinary muster from Histon. The champions were handsome specimens of the breed. The only first prize to go outside the Histon group and for which it made no entry, was that for geldings. Mr. R. Chrystal Irving won in a strong class here with a stylish grey.

HUNTERS, HACKS AND PONIES.

Manchester was not expected to equal Harrogate in light horses, but the total entries contrasted rather more sharply than could have been foreseen. The figures of 77 and 103 in the breeding and riding classes respectively looked disappointing alongside the 138 and 188 at Harrogate. Allowance must be made for the exceptional aggregates at the 1929 Show, however, and if due regard be had to the quality of the exhibits at Manchester supporters of saddle stock, breeding, young or trained, had good reason to feel that interest in the reproduction of hunter animals is continued with unabated diligence and skill. The types prominent at Manchester were admirable and reflected understanding and intelligence on the part of the breeders and owners.

The breeding classes do not attract the same attention in the ring as the "made" hunters which are always assured of a good gallery, but lovers and experienced judges of the saddle horse watch the mares, filies and foals with minute care and recognise the vital part this section bears to the future of the hunter classes, and the supply of sound hunters. The champion mare shown by Messrs. T. & H. Ward, Nada Ross, was bred in Ireland by Mr. James Clarke, Navan, and she carried her twelve years lightly. Mrs. Philip Fleming's Redwing 7th was second in the class and reserve for the medal, and she had credit in leading such noted mares as Sir Merrik R. Burrell's Blood Ruby, and Lord Digby's Lady Mary 6th. The novice class brought out some handsome mares and foals, well bred and of the approved type. Mr. George Dickinson led with the chestnut Cark Silver Pheasant, a home-bred daughter of Silver Grill, also twelve years old. Sir Merrik Burrell won for colt foals and Dr. Edward Jackson for filly foals, the Knepp Castle foal being by St. Tudwal and the filly foal by Captain Jack.

The young stock maintained the high level of recent years and promised well for the immediate future of the true-bred saddle horses. The classifications are planned to encourage breeding on the right lines and the entries, in breeding as well as in quality, justified the wisdom of the course adopted. There was merit and promise of a high order in all three ages, yearlings, two-year-olds and three-year-olds. The Special Produce Prizes for groups by the same sires brought forward interesting lots and the winning groups sired by Hector and Harmonious respectively did credit to their sires.

The classes of hunters shown in the saddle, as always, formed a prominent feature in the daily programmes. There is something irresistibly attractive in the matured hunter displaying the peculiar attributes of the kind in the judging ring and usually the prizes were awarded in the presence of keenly interested spectators. The riding hunters sustained the high standard of merit set in the breeding classes and exhibited in fulfilment the promises offered by the young stock. The continued or increasing prominence of the hunter classes supports the belief that saddle horses are destined to be, relatively if not actually, the strongest feature in the horse shows of the future. No machine can ever displace the well-bred, well-made and well-trained saddle horse.

The pony classes have long had a strong hold on the public and the exhibits shown at Manchester gave gratification to a variety of tastes in sizes, types and utility. The Polo pony is the polished thoroughbred in miniature and the performances in the ring reflect breeding and training in unison of the highest order. The champion stallion and champion filly belonging respectively to Mr. Herbert Bright and Capt. the Hon. C. K. Greenway, deserved their honours and yet in neither case was victory achieved without a struggle with strong opposition. Several of the most prominent studs contributed to meritorious classes.

There was not a large show of Welsh ponies, but the hardy race from across the Border was well represented and, as usual, won high favour with the onlookers. The judging of the Children's Ponies was followed with lively interest and there was general admiration of the exhibits and the skill with which they were handled.

Although they may not be so conspicuous as before the days of the motor, there is still a definite place for hacks and harness horses at the prominent shows. The presence of this class of horse in the ring fills the stands and crowds the ringsides with appreciative onlookers. Quality of pleasing excellence marked the displays of hacks and the strong classes of harness horses.

CATTLE.

The cattle department of a Royal Show has to be seen to be realised in full measure. The judging proceedings on the opening day when there is bustle, without confusion, in the many rings, or the task of inspecting the exhibits in their stalls, are suggestive of the wealth of the nation in bovine stock; but the true significance of the twenty breeds paraded can be grasped adequately only when the prize animals are paraded in the Great Ring on the second and later days of the meeting. The procession of prize animals is one of the finest things in the country, not only for those versed or interested in this particular class of stock, but for any one to see who is capable of appreciating the skill of the stockowner and his helpers in producing the greatest breeds in the world.

The exhibition of cattle, whether watched during the parade or studied in the seclusion of the stalls, is impressive and instructive. The uninitiated is apt to think that the variety has been created and exists to humour fancy or simply for variety's sake. This is a mistaken interpretation of the wonderful work of early improvers and present-day owners which the modern show presents. Without going so far as to say that all breeds are necessary, still less to suggest that all are equally serviceable, it can be claimed that each serves some distinctive purpose, perhaps better than would be done by any other. There is not variety without some special qualification, it may be the production of meat or milk; or it may be, and often is, exceptional fitness to thrive where others might barely exist; or again to produce cheaply and from the natural fare of the locality. It is not contended that personal preference of breed or type does not enter into the considerations that influence choice, but it would be wrong to argue that selections are made, in more than exceptional cases, on purely imaginary merits. All varieties, and

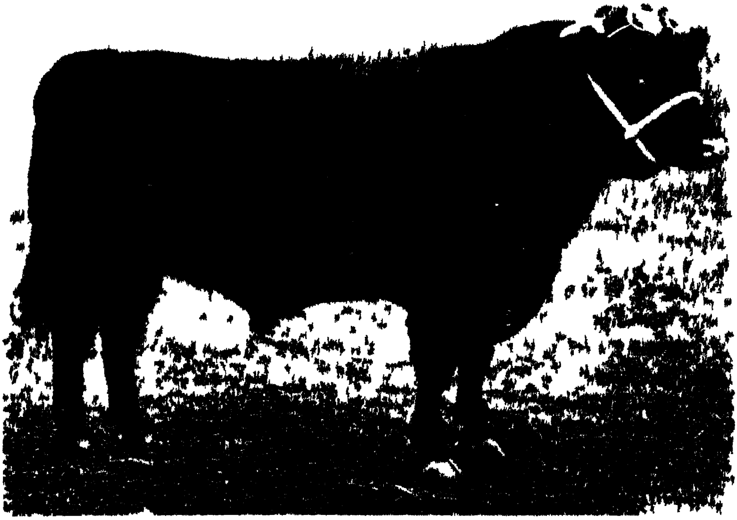

FIG 3 —SHORTHORN BULL, BASILDON ROSICRUCIAN'
Winner of Champion Prize for best Shorthorn Bull Manchester, 1930
Exhibited by SIR GOMER BERRY, BART

FIG 4 SHORTHORN HEIFER WING BROADHOOKS
Winner of Champion Prize for best Shorthorn Cow or Heifer, Manchester, 1930.
Exhibited by MISS A S BROCKLEBANK, O B E

even different types of the same variety, have justified in some way the preference that is extended to them.

The Shorthorn was not quite at its best. But it would be wrong to exaggerate the imagined or actual falling off from the customary standard either in numbers or in merit. Great things are expected of the Royal—on the experience of past years when things were prospering more abundantly than they are to-day—but it would be unwise to conclude that because owners have found it necessary to ease up a bit pending a change in the markets that the fortunes of the breed have altered for good, or that the breed itself has deteriorated in any vital sense. The Shorthorn remains the premier breed of cattle in the world; others may be improving their positions to the gratification and profit of their supporters, but the Shorthorn continues to hold a supreme place in the economy of the farm.

The collection at Manchester was not so imposing as usual, but the classes collectively and individually—with a few exceptions—represented the breed worthily in times of extreme difficulty. The chief exhibits came from widely separated parts of the country and warranted confidence in the ability of the breed and its supporters to cater successfully for whatever market the future may offer for line-bred Shorthorns.

Owners of Herefords had no better reasons for satisfaction with the display of their breed than supporters of Shorthorns, but they appeared to accept with prudent recognition the adverse factors that operated against strong classes and keen rivalry in a costly business. But in this breed, also, specimens of high merit were exhibited and won the chief awards. The Devon came North in creditable force and gave the visitors to Manchester an opportunity to see the breed in something like its true merit. The small classes of Sussex, as usual, were notable for the high level of merit, but they were exceptionally distinguished on this occasion that they included what many considered the finest exhibit in the Show—Lt.-Col. J. R. Warren's champion cow, Lock Knelle 2nd. The Welsh cattle continue to improve and did itself and its owners great credit by the quality exhibited. The Longhorn also came out in pleasing merit and again the representatives of Bakewell's old breed made an attractive and fitting feature in the Show.

The collection of Aberdeen-Angus cattle was one of the best of any breed in the Show. The classes were well filled and the quality was usually impressive. Competition was keen and champion animals of striking merit were decorated with the coveted rosettes. Col. Norman Kennedy's cow, Madeira of Doonholm, was popularly coupled with Lt.-Col. Warren's Sussex as one of the outstanding animals in the Show. Mr. G. H. Russell's bull also was of the type once especially prized. The

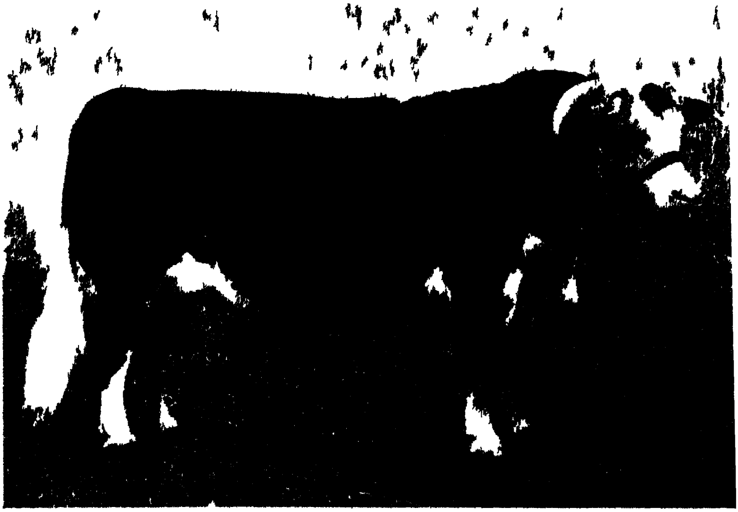

Fig 5 —Hereford Bull, "Free Town Admiral"

Winner of Champion Prize for best Hereford Bull Manchester, 1930

Exhibited by Mr Percy L Bradstock

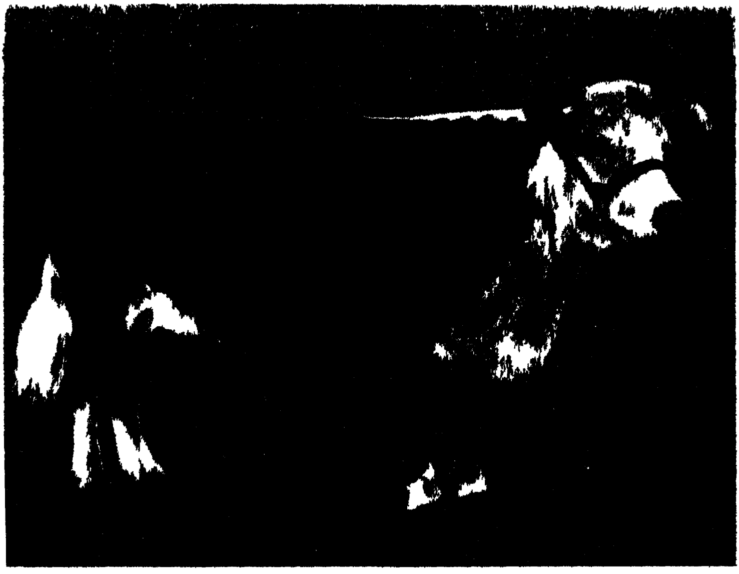

Fig 6 —Hereford Cow, "Priory Cornelia"

Winner of Champion Prize for best Hereford Cow or Heifer, Manchester, 1930

Exhibited by Sir David R Llewellyn, Bart two types of Galloway—the Belted and the ordinary—were forward in strength. The classes of both gave satisfaction to their respective supporters and included cattle of attractive symmetry and character. The two types of Park cattle, horned and polled, were grouped together and it was interesting to note the trueness to type irrespective of the horns that characterised the exhibits.

In recent years the Dairy Shorthorn classes have been an outstanding feature and last July they were again the most prominent in the section. Competition was exceedingly keen, not so much on account of the large entries as of the high standard of merit. Many of the best herds sent strong representations and owners of this class of Shorthorn had every reason to be satisfied and encouraged by the impressive exhibition at the Royal Show of 1930. Competent critics—in fact keenly interested onlookers—expressed the hope that care would be taken to guard against the risk of pursuing deep milking to the injury of the size, substance and constitution of the cattle, but this was done more by way of timely warning than of fault finding with the handsome animals paraded. The health and general soundness of animals is a point that well-wishers will scrupulously keep in mind, even when endeavouring to win honours in classes of the imposing order seen at Manchester.

For the most part the exhibits testified to regard for constitutional vigour, for the dual-purpose type was conspicuous in the classes and in the prize lists. Breeders of Dairy strains are less exacting about colour and certain other characteristics than owners of the older or unqualified families, but differences between them are gradually waning and points of similarity developing in pleasing manner. The champion bull and others, as well as many of the cows and heifers, combined the approved qualities of the popular Shorthorn in gratifying measure. The success of Sir William Hicking was again remarkable, for in addition to taking the female championship with the young cow, Debden Rose, he claimed the fifty-guinea Challenge Cup for the best group of three cows or heifers for the third time in succession and secured the cup outright. The Brackenhurst Hall herd also had the noted Brackenhurst Jean, a former winner, reserve for the championship.

The Red Shorthorns of Lincolnshire travelled West in considerable numbers and the classes created a good impression. There is still and is likely to be different types, since milk and meat are favoured in varying degree, but the weighty reds of the premier farming county always appeal favourably to the onlookers with an eye to practical utility. The Messrs. Evens did well with their cows, but other exhibitors shared liberally in the honours.

The Red Poll continues to win fresh ground and new supporters. The classes were filled with entries from a wide area, showing that the breed had spread far from its original home in East Anglia. The principal bulls were typical of the approved Red Poll, big, handsome and smooth in flesh, while several of the cows were exceedingly pleasing to the most exacting supporter. The champion cow and the reserve both did credit to the breed and the heifers promised that the standard would be maintained. The dual-purpose qualities of the breed were exhibited in convincing degree.

The display of Blue Albions fulfilled expectations and encouraged supporters of the breed to persevere in propagating the best strains. The original type is a good dual-purpose animal and justifies her place in the Royal Show and at smaller gatherings. It is clear that the breed is responsive to careful management, especially in milk production, for most of the cows and heifers indicated liberal milking properties. Both sexes were worthily championed.

The British Friesians were second only to the Dairy Shorthorns in numbers and the large classes occupied many hours in the judging ring. The plan of inviting a Dutch breeder to award the prizes in the cow and heifer classes was continued and there is no reason to suppose that the course was anything but helpful. Mr. J. N. Wassenaar is known at home to be an authority on the Friesian and it must have been an advantage to get the benefit of his views as to the types that are cultivated in this country. If we wish to emulate the type of animal favoured in Friesland it is wise to procure occasionally a judge from the source whence the breed sprang. The show all over was creditable, the number of onlookers at the ringside during judging implied sustained interest in the welfare of the breed.

The Ayrshire classes were not large and not so uniform as might have been expected, but some very handsome specimens of the breed were exhibited. The formation of bag was again the admiration of spectators. The Guernsey breed usually comes out in force at the Royal and the increasing supporters watched the proceedings with evident interest. The quality of the stock was as pleasing as the numbers. The Guernsey is steadily improving her position and her progress is warranted on practical grounds. The Jersey also was seen to advantage, both in numbers and merit. Quality of a high order was noticeable in all the classes. Both the Channel Islands breeds have established themselves firmly in wide areas and they make an impressive appearance at the leading shows. The two Irish breeds are fixed features in the Royal Show; both inspired favourable comment at Manchester, the Kerry chiefly because of her dairying qualities and the Dexter mainly on account of her diminutive proportions.

SHEEP.

The important position that sheep have won and maintained in farming in the past few years was not adequately reflected at the Manchester Show. The section was comprehensive and of a highly meritorious description, but many valuable breeds were forward in meagre numbers or were absent altogether. The pens were inspected by numerous visitors during the week, while the judging on the opening day was followed with eager attention by interested onlookers. Complaints were heard that trade for exportation was slow and unimportant, but, on the other hand, reference was frequently made to the solid position the flocks have established for themselves on the mixed farm. They have stood firm against trials and market depression, especially in wool, and the future was viewed with complacency and confidence.

The country is rich in breeds of sheep, owning more than 30 distinct varieties, but only 23 of them were represented at this year's Royal Show. The failure of some of the dozen or more that were missing to take advantage of this unequalled opportunity of appealing to a wider public is regrettable and unfortunate. Home requirements may be fittingly served with the present distribution of types and crosses, but there may be for some breeds a larger overseas market that is well worth cultivating. Visitors from abroad cannot be expected to hunt for new varieties, but they would, no doubt, be ready to consider their claims favourably if the animals were brought under their notice. The Royal Show, in particular, is adapted for bringing sellers and buyers into closer contact, or, perhaps more correctly, for affording opportunities for breeders to get into touch with new or undeveloped markets.

The Down breeds always win admiration and the strong classes of most of the breeds indicated the strong place which the Southdown and the several younger short-wools occupy in the economy of the farm. The Oxford Down classes brought no new owner into prominence, but the better-known flocks are exceedingly difficult to dislodge from their accustomed positions. The Shropshire also was penned in pleasing quality and in this case also the flocks of repute proved invincible, although the honours were widely distributed and invariably deserved. The Southdown was exceedingly well supported and it was gratifying to see such a strong class of the oldest of the Downs. Quality remains the distinguishing characteristic of Ellman's breed and it is significant of the persistent supremacy of mutton that the Southdown is regarded as the type towards which other breeds

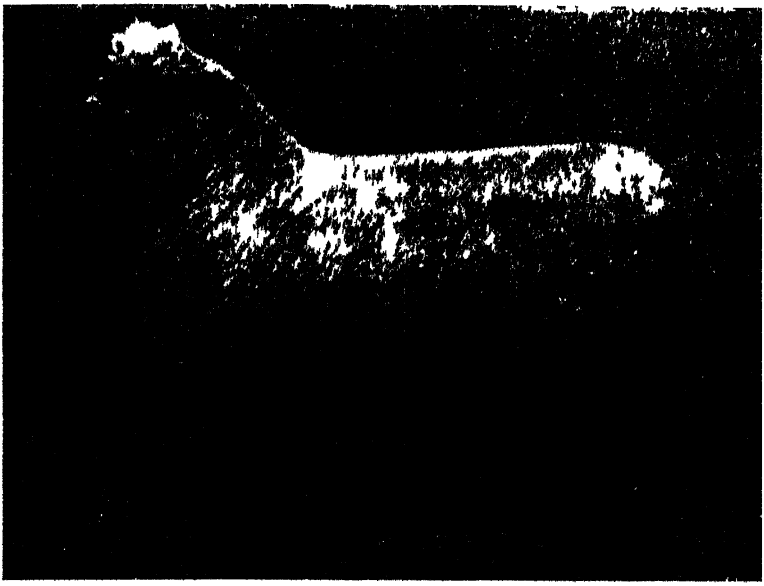

FIG 7.—OXFORD DOWN SHEARLING RAM

Winner of Champion Prize for best Oxford Down Male Exhibit, Manchester, 1930

Exhibited by MR W H HITCH.

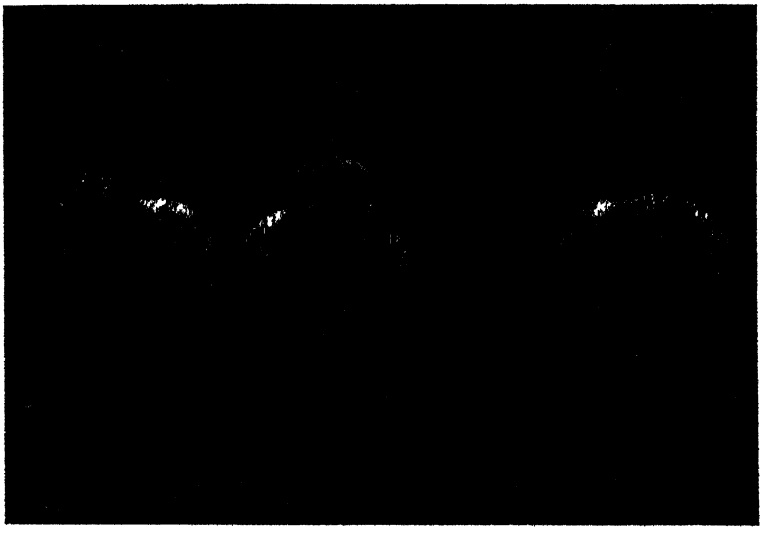

FIG 8.—THREE OXFORD DOWN SHEARLING EWES

Winners of Champion Prize for best Oxford Down Female Exhibit, Manchester, 1930.

Exhibited by MR HUGH WILLIAM STILGOE.

are fashioned. The Hampshire likewise made a very creditable appearance and apparently retains its strong hold upon flockmasters in its own area, now a wide one and extending as the early maturing properties of the breed becomes known. Purebred or crossed, the Hampshire gives a good account of itself, and the pens at Manchester made a favourable impression upon visitors. Another popular and valuable breed, the Suffolk, was shown in gratifying strength in numbers and quality. The East Anglian Down has spread far from its native county and among other centres it has established a strong outpost in Scotland. The display of Suffolk sheep was extremely pleasing. The two Dorset breeds—the Horn and the Down—were not exhibited in large numbers, but the quality was satisfactory and gave a good idea of the merits that have won distinction for the breeds of Dorset. The old Wiltshire or Western Horn is steadily regaining an important place, and good classes represented the breed at Manchester. The Ryeland has come strongly to the fore after a period of comparative neglect and its owners had good reason to feel pleased with the collection penned last July. The type is well maintained and in utility value the Ryeland continues to gain new owners. The Kerry Hill (Wales) is another Western breed that keeps moving in increasing numbers into the Midland and Southern divisions. The classes were strong and attracted attention significant of the prosperity of the breed. The Clun Forest was not shown in large numbers, but the modern type was fittingly represented.

The Long-wools, led by the Lincoln, made it clear that the changes in the relative values of mutton and wool have not greatly affected their position. Indeed, differences in size and weight of carcass have done more to advance the claims of the lighter breeds than the markets for the fleece, although there appears to be still a definite demand for big mutton in parts of the North-eastern area. The great breed of Lincoln and neighbouring counties was shown in imposing strength. The number of flocks represented was not so large as could be wished, but the approved type and characteristics of the Lincoln were exhibited in worthy measure. The old Leicester also was penned in excellent quality. In this case also it would have been pleasing if a larger number of flocks had contributed, but again the standard of merit was worthy of the original Bakewell long-wool. The kindred Border Leicester was marred by gaudy colouring. This breed has won widespread favour on account of the part it plays in giving the commercial farmers a fine type of ewe, and it is unfortunate that its natural attractiveness should be depreciated by a glaring abuse of the colouring system. The Wensleydale was forward in force and, as at Harrogate in 1929, visitors had a capital opportunity for seeing the hardy

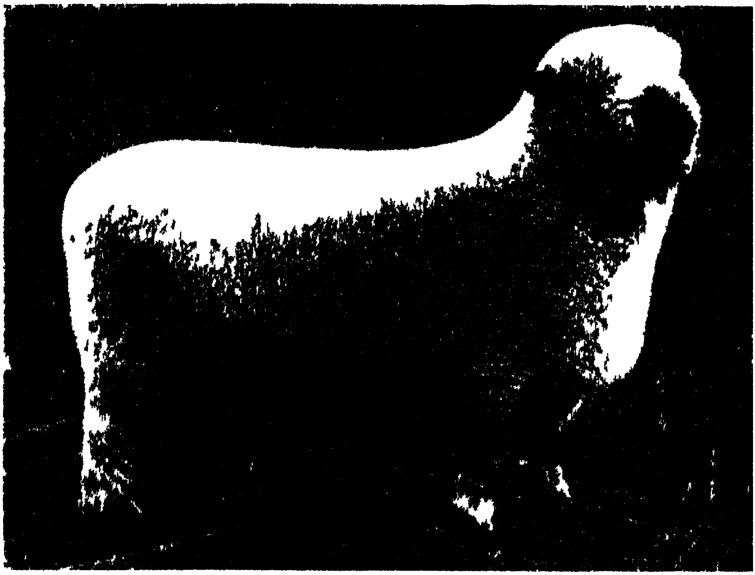

FIG 9—SHROPSHIRE SHEARLING RAM
Winner of Champion Prize for best Shropshire Ram in Classes 238 *and* 239, *Manchester*, 1930.
Exhibited by MR N J NUNNERLEY

FIG 10—THREE SHROPSHIRE SHEARLING RAMS
Winners of Champion Prize for best Exhibit of Shropshire Sheep, Manchester, 1930.
Exhibited by MR N. J NUNNERLEY.

breed at its best. The Kent or Romney Marsh went North in considerable numbers and select quality. Nothing but the best made the long journey and it was encouraging to notice that the older show flocks are receiving increasing and menacing competition. The few Dartmoors typified the modern or improved sheep of the great Devonshire moor, but there are still some who have a leaning to the old flocks that inhabited the moor, lighter in body and colour than the serviceable and remarkable sheep of to-day. The Lonk was near its home and did itself credit. The breed has not spread far from its North Lancashire home, but it serves its owners well and has been proved exceptionally adapted to the conditions in the district. The Swaledale also was in pleasing strength, and the hardy Herdwick, the Cheviot, the Welsh Mountain and the Black Welsh Mountain added suitably to the interest and merit of the department.

GOATS.

The section allotted to goats was again well supported. The classes were well filled and visitors had an opportunity for inspecting and comparing the merits of Toggenburg, Saanen, Anglo-Nubian, Alpine and their respective British relatives, or adaptations. The goat has a following of its own and appears to be so completely in the ownership of ladies that all the prizes went to lady exhibitors. The "Royal" exhibits, as well as those at other leading shows, indicate the remarkable progress that has been made in propagating milking qualities in the different breeds. If ever the goat was qualified to be serviceable as a milk producer she certainly is in the improved modern types and breeds.

PIGS.

The slight reduction in the total entry of pigs implied no change of importance. The absence of the Gloucestershire Old Spots—an unexpected blank—was adequate to explain the small decrease in the aggregate. The nine breeds represented were all shown in force and quality. The Large White again supplied the largest number of any breed, as is appropriate in the case of a breed so widespread in its ownership and so influential in the raising of commercial herds. The fixed type blending utility qualities in remarkable degree was, as always, predominant and was strongly stamped upon the successful exhibits. The Middle White was a strong second in numbers and the quality here also was uniformly good and reassuring. The two white breeds have a strong hold upon pig breeders and are especially prominent at the principal shows. Owners of the Tamworth responded loyally with entries and creditable classes were the

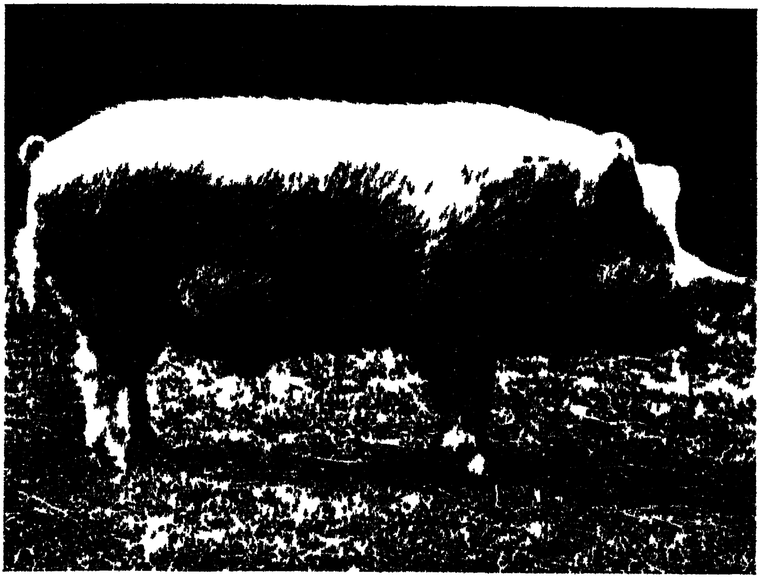

Fig 11 —Large White Boar, "Walton Bandmaster 33rd"
Winner of Champion Prize for best Large White Boar, Manchester, 1930
Exhibited by the Marden Pedigree Pig Co, Ltd

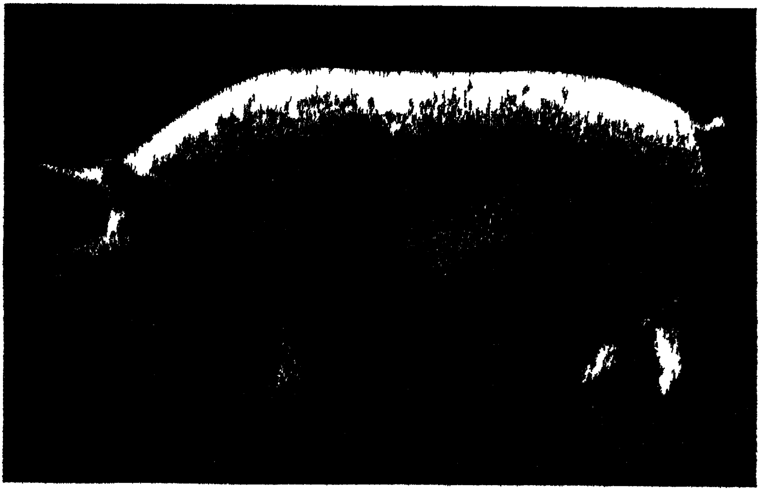

Fig 12 —Large White Breeding Sow, "Peakirk Mary 5th"
Winner of Champion Prize for best Large White Sow, Manchester, 1930
Exhibited by Lord Daresbury, C V O

result. The improved type of Tamworth was conspicuous in the contests. It was pleasing to find the Berkshire forward in large numbers and in notable merit. Herds of this breed are springing up in the North and it may be expected that in due time Southern breeders will have to fight still harder for their proper share of the honours. Already herds in the North command prominent attention and here, as at other shows, succeeded in claiming some of the more cherished honours. The Wessex Saddleback has gained a definite place in the larger shows and the meritorious classes at Manchester proved that the recognition is appreciated and justified. The Hampshire pig has numerous and strong supporters.

The Large Black was third in the matter of entries and equal to the best in respect to quality. This breed may suffer from having had more than one source of origin before the herd book was founded, but the different local types have been merged to make a really fine, serviceable pig. The Manchester classes were strong and consistent in scale and type, with the result that exhibits from the extreme points of the Large Black area shared the highest distinctions. The consolidated position of the breed was evidenced clearly at Manchester The Cumberland pig justified its place, as did also the popular Essex breed and the Long White Lop-eared breed, once of Devon but now of a wider area.

C. J. B. MACDONALD.

West End Farm,
Cheddington,
Leighton Buzzard.

WORLD AGRICULTURAL TRACTOR TRIALS, 1930

IN 1929 the Council, upon the advice of the Implement Committee, decided to hold, in 1930, trials of agricultural tractors which should be open to manufacturers throughout the world. These trials were to be divided into two parts: an exacting series of scientific tests to be carried out by the staff of the Institute for Research in Agricultural Engineering, University of Oxford, was to be followed by a public demonstration in the neighbourhood of Oxford. Thirty-three tractors and three power-driven market-garden cultivators were entered and reported for test. The countries represented by the tractors were as follows: U.S.A., 12; Great Britain, 8; France, 5; Germany, 4; Sweden, 2; Hungary, 1; and Irish Free State, 1. Of the market-garden cultivators two were of British and one of

Swiss origin. The scientific tests of the tractors were carried out between June 2 and July 26, while the market-garden cultivators were tested on market-garden crops during May. The public demonstration took place September 16 to 19 at Ardington, near Wantage. Thanks are due to Mr. A. T. Loyd, for placing his land at the disposal of the Committee for this purpose, and to his agent, Mr. E. Lousley, for the assistance which he afforded. Thanks are also due to Mr. F. P. Chamberlain of Crowmarsh Battle Farm, Benson, Oxon, on whose land the tests were conducted: to Messrs. Ransomes, Sims & Jefferies, Ipswich: and to Messrs. James and Fredk. Howard, of Bedford, for the loan of implements for use in the Field Tests: to the Anglo-American Oil Company, the Anglo-Persian Oil Company (B.P.) and Messrs. Shell-Mex, Limited, for the loan of apparatus: and to all the tractor drivers and representatives of the entrants for the willing spirit with which they co-operated in the work.

The interest evinced abroad in the tests, which found expression both in the number of overseas entries and in the large attendance of overseas visitors at the Public Demonstration, was in large measure due to the assistance given by the Department of Overseas Trade in making the trials known abroad.

A full report of the tests was published at the time of the Public Demonstration.[1]

REPORT ON TESTS OF TRACTORS.

1. ENTRIES.

The following Tractors were entered for the Trials and were delivered for test:—

Official
No.

1.—International "Farmall." Wheel type tractor: nominal rating, 9/18 h.p; 4-cylinder engine starting on petrol, running on paraffin; bore, 3¾ in.; stroke, 5 in.; crankshaft speed, 1,200 r.p.m.; belt speed, 2,540 ft./min. Entered by The International Harvester Co. of Great Britain, Ltd., 259 City Road, London, E.C.1. Country of origin: U.S.A. Price £220.

2.—International "10/20." Wheel type tractor: nominal rating, 10/20 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4¼ in.; stroke, 5 in.; crankshaft speed, 1,000 r.p.m.; belt speed, 2,575 ft./min. Entered by The International Har-

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[1] World Agricultural Tractor Trials, 1930. Official Report. Oxford: Hall The Printer Ltd. 1*s*. (1*s*. 3*d*. post free).

Official
No.

vester Co of Great Britain, Ltd., 259 City Road, London, E.C.1. Country of origin: U.S.A. Price £220.

3.—International "15/30." Wheel type tractor: nominal rating, 22/36 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4¾ in.; stroke, 6 in.; crankshaft speed, 1,050 r.p.m.; belt speed, 2,600 ft/min. Entered by The International Harvester Co of Great Britain, Ltd., 259 City Road, London, E.C.1. Country of origin: U.S.A. Price £320.

4.—Peter Brotherhood. Wheel type tractor: nominal rating, 22/36 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 5 in.; stroke, 6 in.; crankshaft speed, 1,100 r.p.m.; belt speed, 2,860 ft. min. Entered by Agricultural & General Engineers, Ltd., Aldwych House, Aldwych, London, W.C.2. Country of origin: Great Britain. Price not stated.

5.—Blackstone. Wheel type tractor: nominal rating, 20/26 h.p.; 4-cylinder 4-stroke Diesel engine starting by auxiliary petrol engine; bore, 4⅝ in.; stroke, 6 in.; crankshaft speed, 1,000 r.p.m.; belt speed, 2,600 ft./min. Entered by Agricultural & General Engineers, Ltd., Aldwych House, Aldwych, London, W.C.2. Country of origin: Great Britain. Price £500.

6.—Vickers. Wheel type tractor: nominal rating, 23/40 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4½ in.; stroke, 6 in.; crankshaft speed, 1,300 r.p.m.; belt speed, 2,450 ft./min. Entered by Vickers (Crayford), Ltd., Crayford Works, Crayford, Kent. Country of origin: Great Britain. Price not stated.

7.—Massey-Harris "12/20." Wheel type tractor: nominal rating 12/20 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 3⅞ in.; stroke, 5¼ in.; crankshaft speed, 1,000 r.p.m.; belt speed, 2,406 ft./min. Entered by Massey-Harris, Ltd., 53–55 Bunhill Row, London, E.C.1. Country of origin: U.S.A. Price £220.

8.—Massey-Harris "20/30." Wheel type tractor: nominal rating, 20/30 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4⅜ in.; stroke, 5¾ in.; crankshaft speed, 1,050 r.p.m.; belt speed,

Official No.

2,375 ft./min. Entered by Massey-Harris, Ltd., 53–55 Bunhill Row, London, E.C.1. Country of Origin: U.S.A. Price £300.

9.—Case Model C. Wheel type tractor: nominal rating, 17/27 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 3⅞ in.; stroke, 5½ in.; crankshaft speed, 1,100 r.p.m.; belt speed, 2,600 ft./min. Entered by Associated Manufacturers' Co., Ltd., 46–48 Wharfdale Road, King's Cross, London, N.1. Country of origin: U.S.A. Price £248.

10.—Case Model L. Wheel type tractor: nominal rating, 26/40 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4⅝ in.; stroke, 6 in.; crankshaft speed, 1,100 r.p.m.; belt speed, 2,650 ft./min. Entered by Associated Manufacturers' Co., Ltd., 46–48 Wharfdale Road, King's Cross, London, N.1. Country of origin: U.S.A. Price £348.

11.—Rushton "Roadless." Track-laying tractor: nominal rating, 18/28 h.p.; 4-cylinder engine starting and running on petrol; bore, 4·14 in.; stroke, 4·97 in.; crankshaft speed, 1,200 r.p.m.; belt speed, 2,800 ft./min. Steering by track brakes. Entered by The Rushton Tractor Co. (1929), Ltd., Forest Road, Walthamstow, London, E.17. Country of origin: Great Britain. Price £434 (ex works).

12.—Rushton Standard. Wheel type tractor: nominal rating, 14/20 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, 4·14 in.; stroke, 4·97 in.; crankshaft speed, 1,200 r.p.m.; belt speed, 2,800 ft./min. Entered by The Rushton Tractor Co. (1929), Ltd., Forest Road, Walthamstow, London, E.17. Country of origin: Great Britain. Price £209 10*s*.

13.—Mercedes Benz. Wheel type tractor: nominal rating, 14/20 h.p.; single cylinder 4-stroke Diesel engine (hopper cooled) starting by torch; bore, 5·9 in.; stroke, 9·45 in.; crankshaft speed, 800 r.p.m.; belt speed, 3,000 ft./min. Entered by J. & H. McLaren, Ltd., Midland Engine Works, Leeds. Country of origin: Germany. Price £360.

14.—McLaren. Wheel type tractor: nominal rating, 16/27·5 h.p.; 2-cylinder 4-stroke Diesel engine starting by torch; bore, 5·3 in.; stroke, 7·9 in.; crankshaft speed, 800 r.p.m.; belt speed, 3,080 ft./min. Entered by J. & H. McLaren, Ltd., Midland Engine Works, Leeds. Country of origin: Great Britain. Price £500.

15.—"Caterpillar Ten." Track-laying tractor: nominal rating, 10/14 h.p.; 4-cylinder engine starting and running on petrol; bore, 3⅜ in.; stroke, 4 in.; crankshaft speed, 1,500 r.p.m.; belt speed, 2,600 ft./min. Steering by track clutches. Entered by The Caterpillar Tractor Co., San Leandro, California. Country of origin: U.S.A. Price £290.

16.—"Caterpillar Fifteen." Track-laying tractor: nominal rating, 15/20 h.p.; 4-cylinder engine starting and running on petrol; bore, 3¾ in.; stroke, 5 in.; crankshaft speed, 1,250 r.p.m.; belt speed, 2,600 ft./min. Steering by track clutches. Entered by The Caterpillar Tractor Co., San Leandro, California. Country of Origin: U.S.A. Price £390.

17.—"Caterpillar Twenty." Track-laying tractor: nominal rating, 20/25 h.p.; 4-cylinder engine starting and running on petrol; bore, 4 in; stroke, 5½ in.; crankshaft speed, 1,100 r.p.m.; belt speed, 2,600 ft./min. Steering by track clutches. Entered by The Caterpillar Tractor Co., San Leandro, California. Country of origin: U.S.A. Price £505.

18.—"Caterpillar Thirty." Track-laying tractor: nominal rating, 25/30 h.p.; 4-cylinder engine starting and running on petrol; bore, 4¾ in.; stroke, 6½ in.; crankshaft speed, 850 r.p.m.; belt speed, 2,670 ft./min. Steering by track clutches. Entered by The Caterpillar Tractor Co., San Leandro, California. Country of origin: U.S.A. Price £645.

19.—"Caterpillar Sixty." Track-laying tractor: nominal rating, 50/60 h.p.; 4-cylinder engine, starting and running on petrol; bore, 6½ in; stroke, 8½ in; crankshaft speed, 650 r.p.m.; belt speed, 2,720 ft./min. Steering by track clutches. Entered by The Caterpillar Tractor Co., San Leandro, California. Country of origin: U.S.A. Price £1,150.

20.—Marshall. Wheel type tractor: nominal rating, 16/24 h.p.; single cylinder 2-stroke Diesel engine starting by torch; bore, 8 in; stroke, 10½ in.; crankshaft speed, 550 r.p.m.; belt speed, 3,840 ft./min. Entered by Marshall, Sons & Co., Ltd., Britannia Iron Works, Gainsborough. Country of origin: Great Britain. Price £315.

21.—Aveling & Porter. Wheel type tractor: nominal

Official
No.

rating, 22/39 h.p.; 4-cylinder 4-stroke Diesel engine starting by auxiliary electric motor; bore, $4\frac{3}{8}$ in.; stroke, $6\frac{3}{8}$ in.; crankshaft speed, 1,150 r.p.m.; belt speed, 3,070 ft./min. Entered by Agricultural & General Engineers, Ltd., Aldwych House, Aldwych, London, W.C.2. Country of origin: Great Britain. Price £525.

22.—Latil. Wheel type tractor (four-wheel drive): nominal rating, 17/20 h.p.; 4-cylinder engine starting and running on petrol; bore, 3·54 in.; stroke, 5·12 in.; crankshaft speed, 1,900 r.p.m.; belt speed, 3,300 ft./min. Fitted with pneumatic tyres and quick-lifting lugs. Entered by Latil Industrial Vehicles, Ltd., 11 Albert Embankment, London, S.E.11. Country of origin: France. Price £655 plus extras.

23.—Fordson. Wheel type tractor: nominal rating, 11/20 h.p.; 4-cylinder engine starting on petrol, running on paraffin; bore, $4\frac{1}{8}$ in.; stroke, 5 in.; crankshaft speed, 1,000 r.p.m.; belt speed, 2,480 ft./min. Entered by The Ford Motor Co., Ltd., Trafford Park, Manchester. Country of origin: Irish Free State. Price £150.

24.—Citroën-Kegresse. Track-laying tractor: nominal rating, 12/13·5 h.p.; 4-cylinder engine starting and running on petrol; bore, 2·83 in.; stroke, 3·93 in.; crankshaft speed, 2,500 r.p.m.; belt speed, 2,110 ft./min.; track at rear; front-wheel steering. Entered by Citroën-Kegresse Ltd., Citroën Building, Brook Green, Hammersmith, London, W.6. Country of origin: France. Price £462, including duty. A duplicate entry of this tractor was made.

26.—Linke. Track-laying tractor: nominal rating, 35/45 h.p.; 4-cylinder engine starting and running on petrol; bore, $4\frac{5}{16}$ in.; stroke, $6\frac{5}{16}$ in.; crankshaft speed, 1,100 r.p.m.; belt speed, 2,487 ft./min.; steering by track brakes. Entered by Linke-Hofmann-Busch-Werke A-G., Breslau, Germany. Country of origin: Germany. Price £530 (ex Breslau).

27.—Lanz. Wheel type tractor: nominal rating, 15/30 h.p.; single-cylinder 2-stroke semi-Diesel engine starting by blowlamp; bore, 8·85 in.; stroke, 10·2 in.; crankshaft speed, 540 r.p.m.; belt speed, 3,760 ft./min. Entered by Heinrich Lanz A-G., Mannheim, Germany. Country of origin: Germany. Price £325. A duplicate entry of this tractor was made.

Official
No

28.—Austin. Wheel type tractor: nominal rating, 12·5/20 h.p.; 4-cylinder engine starting and running on petrol; bore, $3\frac{3}{4}$ in.; stroke, 5 in.; crankshaft speed, 1,200 r.p.m.; belt speed, 2,500 ft./min. Entered by Société Anonyme Austin, 139 rue Lafayette, Paris. Country of origin: France. Price £210.

29.—Austin. Wheel type tractor: nominal rating, 11/15 h.p.: 4-cylinder engine starting on petrol, running on paraffin; bore, $3\frac{3}{4}$ in.; stroke, 5 in.; crankshaft speed, 1,200 r.p.m.; belt speed, 2,500 ft./min. Entered by Société Anonyme Austin, 139 rue Lafayette, Paris. Country of origin: France. Price £210.

30.—Munktells. Wheel type tractor: nominal rating 15/22 h.p.; 2-cylinder 2-stroke semi-Diesel engine starting by compressed air and built-in blowlamps; bore, $6\frac{5}{16}$ in.; stroke, $7\frac{3}{16}$ in.; crankshaft speed, 700 r p m.; belt speed, 2,199 ft./min. Entered by Munktells Mekaniska Verkstads Aktiebolag, Eskilstuna, Sweden. Country of origin: Sweden. Price £270 at Eskilstuna.

31.—Munktells. Wheel type tractor: nominal rating, 20/30 h.p.; 2-cylinder 2-stroke semi-Diesel engine starting by compressed air and built-in blowlamps; bore, $7\frac{3}{16}$ in.; stroke, 8 in.; crankshaft speed, 650 r.p.m.; belt speed, 2,212 ft./min. Entered by Munktells Mekaniska Verkstads Aktiebolag, Eskilstuna, Sweden. Country of origin: Sweden. Price £340 at Eskilstuna.

32.—Hofherr-Schrantz-Clayton-Shuttleworth. Wheel-type tractor: nominal rating, 20/30 h.p.; 2-stroke single-cylinder semi-Diesel engine starting by blowlamp; bore, $8\frac{5}{8}$ in.; stroke, $9\frac{7}{16}$ in.; crankshaft speed, 5,802 r.p.m.; belt speed, 3,570 ft./min. Entered by Hofherr-Schrantz-Clayton-Shuttleworth, Ltd., Budapest, Hungary. Country of origin: Hungary. Price £350, f.o.b. any European port.

2. CONDITIONS OF TEST.

Three classes of tests were laid down for each Tractor:—

(*a*) Belt Tests.
(*b*) Drawbar Tests.
(*c*) Field Tests (Ploughing and Cultivating).

In addition a Road Test was carried out on two machines whose equipment conformed to the Ministry of Transport regulations regarding road haulage. This Test is dealt with separately at the end of this Report.

During all tests each machine was driven by an operator nominated by the Entrant, and was required to be ready for test as and when called for by the testing staff.

During the whole series of tests on each Tractor a total period of two hours for stoppages for minor repairs or replacements was allowed. If this limit was exceeded, or if any breakdown involving major repair occurred, the Tractor was withdrawn from the Trials and no further tests on it were carried out.

The regulations regarding entry of machines permitted the entry of two machines of the same model, tests on the second of which would be carried out only in the event of breakdown of the first.

In the intervals between the testing periods, each machine was returned to store and sealed in the presence of a representative of the Entrant. From the time of the start of its first test until its return to store at the conclusion of its final test, each machine was under observation by the testing staff and all stoppages for whatever cause were noted.

The following standard grades of fuel were supplied by the Technical Committee and were used throughout the tests :—

Paraffin Tractors : Pratt's Anglo Vapourizing Oil . s.g. 0·820
Petrol Tractors : Shell Mex . . . . . s.g. 0·748
Diesel and semi-Diesel Tractors : B.P. Diesoleum . s.g. 0·866

All lubricating oils were supplied by the Entrants to their own requirements. The following brands of oil were used in the tests :—

Mobiloil BB : International Farmall, 10/20 and 15/30 ; Vickers ; Aveling & Porter ; Fordson ; Citroën ; Austin.
Mobiloil B : Rushton Standard and Roadless ; Caterpillar 15, 30 and 60.
Vacuum D.T.E. Extra Heavy : Caterpillar 10 and 20.
Triple Shell : Peter Brotherhood.
Shell No. 589 : Linke.
Shell Medium Tractor : Lanz ; Munktells 15/22 and 20/30 ; Hofherr-Schrantz.
Castrol C (Summer) : Massey-Harris 12/20 and 20/30.
Castrol XL : Latil.
Price's Motorine B : Case Model C and Model L.
Wells Germol : Mercedes-Benz and McLaren.
Valvoline : Marshall.
Nichol's Dragonfly : Blackstone.

3. DESCRIPTION OF APPARATUS AND METHODS OF TESTING.

Belt Tests. In the belt tests the electrical dynamometer shown in Fig. 1 was used. This consists essentially of an electrical generator with a separately excited field and a controllable bank of resistances. The generator is driven by the tractor through a belt and by suitable control of the field current and adjustment of the resistances the output of the generator can be varied so as to absorb any desired power from the belt drive up to a maximum of over 70 h.p. The power absorbed by the generator is calculated from two purely mechanical measurements that are made while the generator is running: first the speed of the armature, and secondly the "torque reaction" between the armature and the generator frame. The second of these measurements is made as follows: the generator frame is mounted on bearings so that when the pulley, and therefore the armature, is rotated the whole frame of the generator tends to turn round with it. Actually this rotation of the frame is prevented by two spring balances which are hung from brackets rigidly attached to the bedplate of the machine. The difference between the readings of these two balances gives a measure of the torque reaction, or in other words, the twisting effort which is necessary to prevent the generator frame from rotating with the armature. The speed of the armature is indicated by a tachometer and from the speed and the torque reaction the actual horse-power required to drive the generator can be calculated.

During each test readings of the dynamometer balances and tachometer were recorded every five minutes. From each set of readings a calculation of the power that was being delivered by the tractor at that instant was made, and from all the results thus obtained the average power delivered during the test was found.

The fuel consumption of the tractor during a belt test was measured in either of two ways, whichever was the more convenient in each particular case. In the first method the fuel tank was filled to a certain known level at the start of the test and at the end of the test was refilled to the same level. The weight of fuel which it was necessary to add in refilling the tank was a measure of the fuel consumed in the test. In the second method the fuel tank of the tractor was disconnected from the carburetter and the latter was connected directly by means of a flexible pipe to a ten-gallon fuel container suspended from a graduated balance. Fuel for the test was thus drawn directly from this container and from the readings of the fuel balance the weight of fuel used was determined.

In all tests periodical readings of the tractor pulley speed were made by means of a revolution counter and stop-watch.

Drawbar Tests. In the drawbar tests loading of the tractors was done by one or other of the two "dynamometer cars" shown in Figs. 2 and 3. These two cars are precisely the same

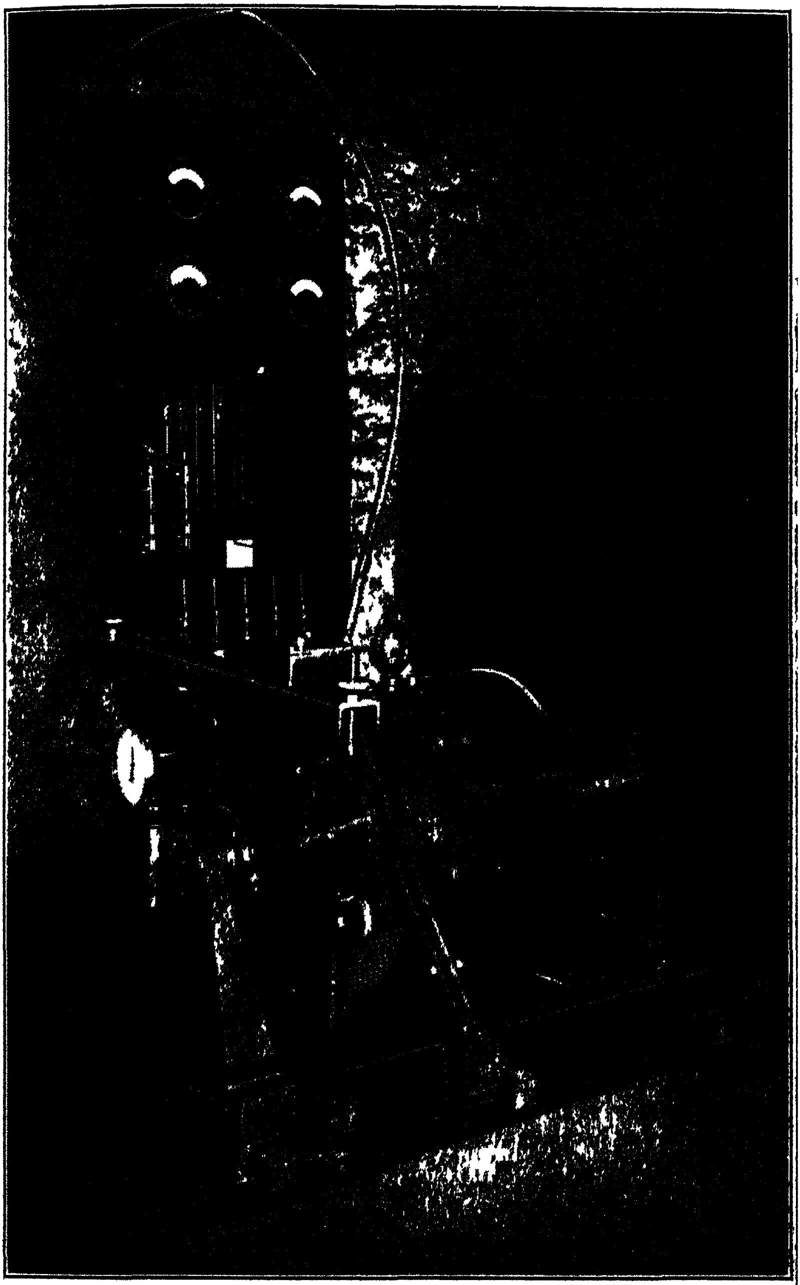

FIG. 1.—Belt Dynamometer, showing Switchboard and Resistance Unit.

in their mode of operation so that only the larger of the two —that shown in Fig. 3—will be described. It consists of a chassis on three wheels, the front one being simply a steering wheel, while the two at the rear are ordinary tractor wheels. As the rear wheels revolve they drive an electrical generator through a four-speed gearbox and final chain drive. A controllable resistance is provided for the purpose of putting any desired load on the generator and thus by means of the controlling switches the car can be made harder or less hard to pull. The four-speed gearbox allows the generator revolutions to be kept at roughly the same value over a wide range of speeds of the car along the ground.

With the larger dynamometer car any powers from 15 to 40 drawbar horse-power can be accommodated, while the smaller car is suitable from about 8 to 25 horse-power. When greater powers were to be dealt with the two cars were used together.

The drawbar pull exerted by the tractor during test was measured by means of the Traction Dynamometer which is shown in Fig. 4 and which can also be seen in position on the dynamometer cars in the other pictures. This consists of two parts, the "link" or pressure unit through which the tractor pulls the loading car and the recording unit which is ordinarily mounted on the car, the two portions being connected by a long steel pipe which is coiled to give flexibility.

The pressure unit is simply a cylinder filled with oil and fitted with a closely fitting plunger. The plunger is hitched to the tractor while the cylinder is hitched to the car, so that, when the tractor pulls the car, pressure is set up in the oil in the cylinder and this pressure is transferred through the steel pipe to the recording unit where it causes a second much smaller plunger to move. The second plunger is controlled by a spring and carries a pen which marks an ink line on a moving roll of paper, driven by a constant speed clockwork motor, the displacement of the pen being proportional to the pull of the tractor. Two pressure units, two and three inches in diameter respectively, were used in the tests.

With the smaller pressure unit pulls up to about 8,000 lb. can be measured, while with the larger unit the limit is over 18,000 lb.

The actual speed of the Tractor during a test was measured by timing it over a measured distance by means of a stop-watch. In the maximum drawbar tests, however, it was necessary to have a continuous indication of the approximate speed throughout the test. For this purpose a simple device was constructed which gave excellent results. It was simply a cord about 300 yards in length which was wound on a drum on the dynamometer car and one end of which was passed round a small

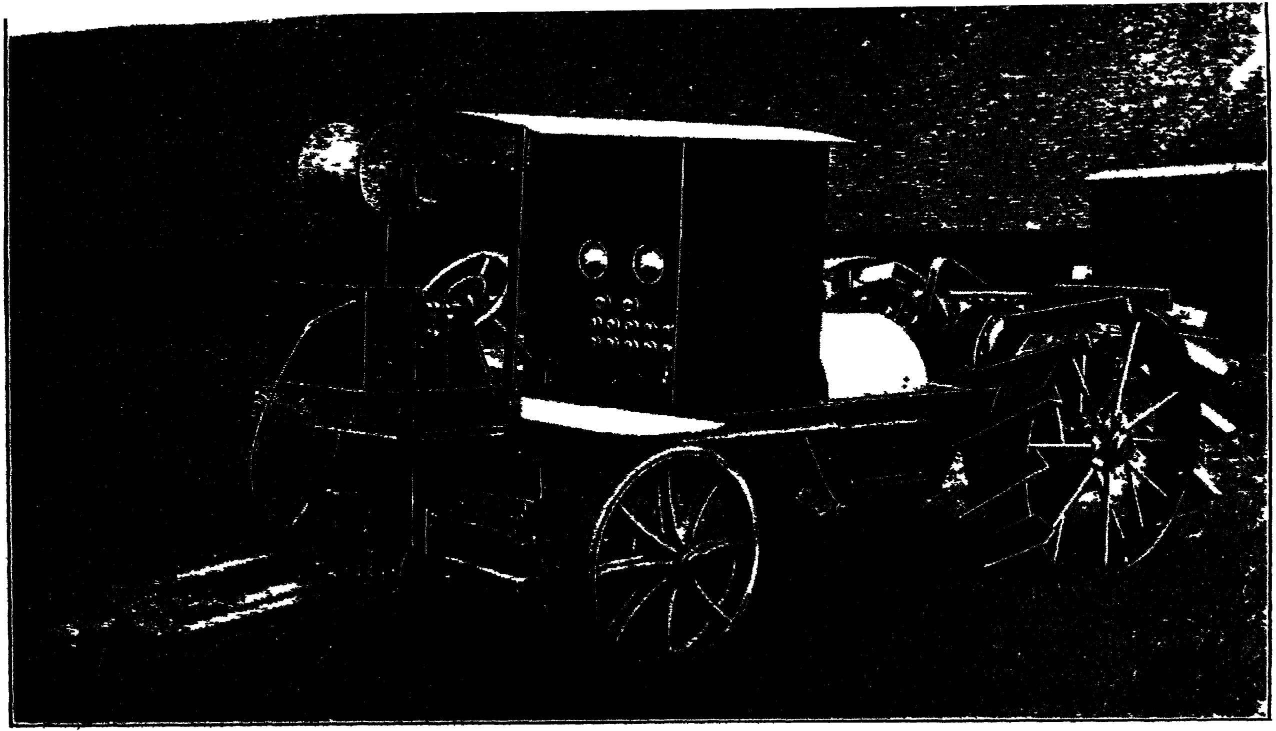

FIG. 2.—Small Dynamometer Car.

grooved pulley and out under the car where it was anchored to the ground. As the Tractor pulled the car along the cord wound off the drum and in so doing revolved the pulley. An ordinary small speed indicator was driven by this pulley and indicated the actual speed of the Tractor along the ground at any instant.

Two distinct sets of drawbar tests were carried out on all tractors which completed their trials: the 8 hours' Rated tests and the Maximum Drawbar tests.

In the 8 hours' Rated test the Tractor, with its governor in normal operation, was hitched to one of the dynamometer cars and the load adjusted so as to be approximately equal to the Rated drawbar horse-power of that particular machine. The Tractor was then set to haul that load continuously round a field for about 8 hours. Records of the pull exerted by the tractor were taken three times during the test and the tractor was timed over a measured distance at about half-hourly intervals. From all these observations the mean horse-power exerted by the tractor during the test was deduced. The consumptions of fuel and water were also measured.

In the maximum drawbar tests the greatest drawbar horse-power which the Tractor was capable of maintaining over a distance of 5 chains in each gear was measured. The time taken by the Tractor to cover the specified distance was measured and a continuous record of the drawbar pull was taken. Wheel slippage was also measured during these tests by comparing the number of revolutions made by the driving wheels of the Tractor during the test run with the number of revolutions made by the same wheels when running over the same distance without load.

From the record of the dynamometer pull and the speed as measured by the stop-watch the drawbar horse-power developed in the test was calculated.

Generally two or three tests were carried out in each gear at slightly different speeds close to the rated speeds. The horse-power developed was worked out in each case and the maximum value obtained was recorded.

4. WITHDRAWALS FROM TRIALS.

Three tractors were withdrawn from the Trials before the completion of their programme of tests:—

Vickers Tractor: Withdrawn on account of a change in programme on the part of the manufacturers.

Fordson Tractor: Withdrawn on account of cracked cylinder block, probably due to a faulty casting.

Peter Brotherhood Tractor: Withdrawn on account of damage to piston, connecting rod and splash guard, probably due to the loosening of a nut in the crankcase.

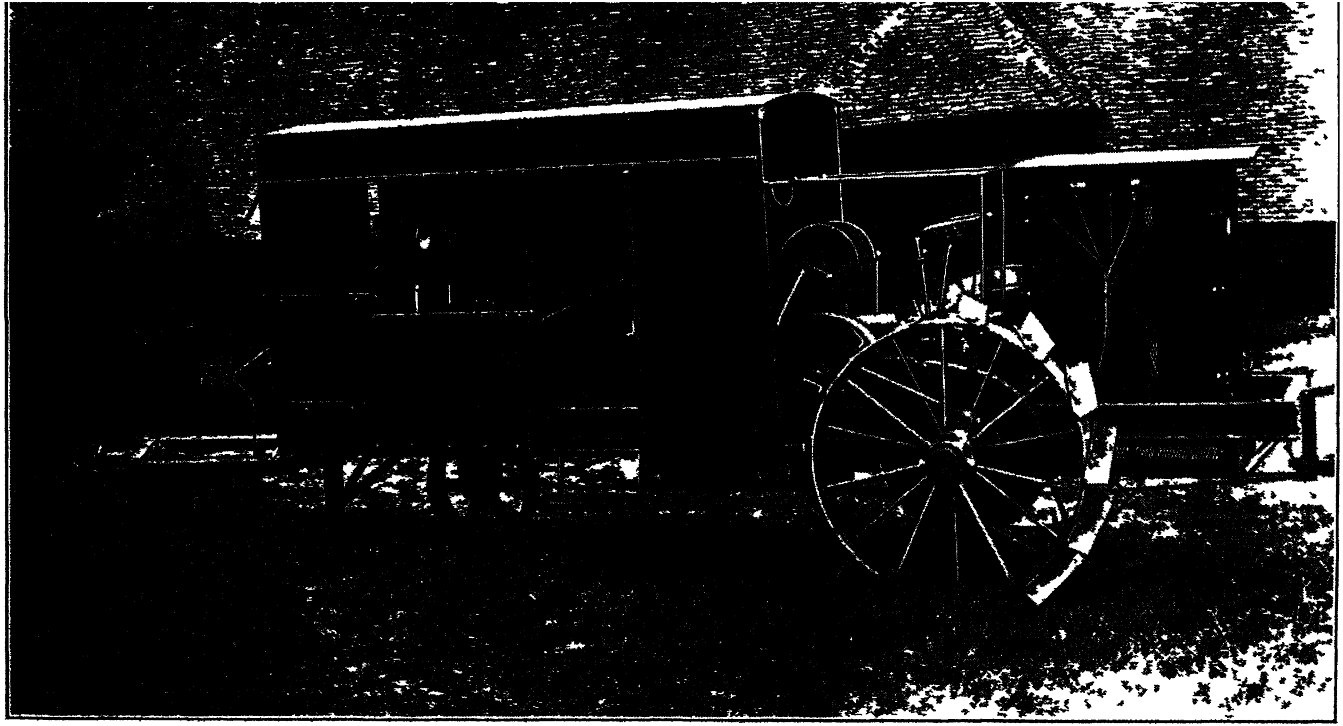

FIG. 3.—Large Dynamometer Car.

The results of such tests as were completed by the above machines before withdrawal are included in the detailed Tables of Results, but the tractors are not included in the text of the Report nor in the summarised Tables of Results.

5. BELT TESTS.

The following belt tests were carried out on each tractor :—

1. One hour's test at declared rated load.
2. Consecutive tests of 15 minutes each at
   (*a*) ¾ rated load, (*b*) ½ rated load, (*c*) ¼ rated load,
   (*d*) no load (belt off).
3. Governor tests in which the load was suddenly varied,
   (*a*) from full rated load to half load;
   (*b*) from half load to no load;
   (*c*) from no load to half load;
   (*d*) from half load to full rated load.
4. One hour's test at Maximum load obtainable at rated engine speed.

During tests Nos. 1, 2 and 4, the power delivered, pulley speed, and fuel consumption were recorded. In test No. 3 observations were made of the behaviour of the governor in adapting itself to the rapid variations of load.

Each tractor was run approximately at its rated load for about 15 minutes immediately before its test for the purpose of warming up. During this time each operator was allowed to make any adjustments which he considered necessary.

In the first three tests the governor was operating at its normal setting and the carburetter remained unchanged. For the maximum load test the governor was set at its upper limit or disconnected entirely, at the discretion of the operator, the speed being maintained at its proper value by increasing or decreasing the load as required.

The detailed results of all belt tests are given in Table I.

NOTES ON TABLE I.

(*a*) While every precaution was taken to ensure good belt adhesion, no allowance was made for belt slippage. The power recorded is in each case the power actually delivered at the dynamometer.

(*b*) Each machine ran for approximately one hour at Rated Load, one hour at Maximum Load, and fifteen minutes at each of the fractional loads. The figures recorded in the Table under the heading "Duration of Test" refer only to the period of time over which the fuel consumption was measured.

(*c*) In the fractional load tests, particularly the ¼ load tests,

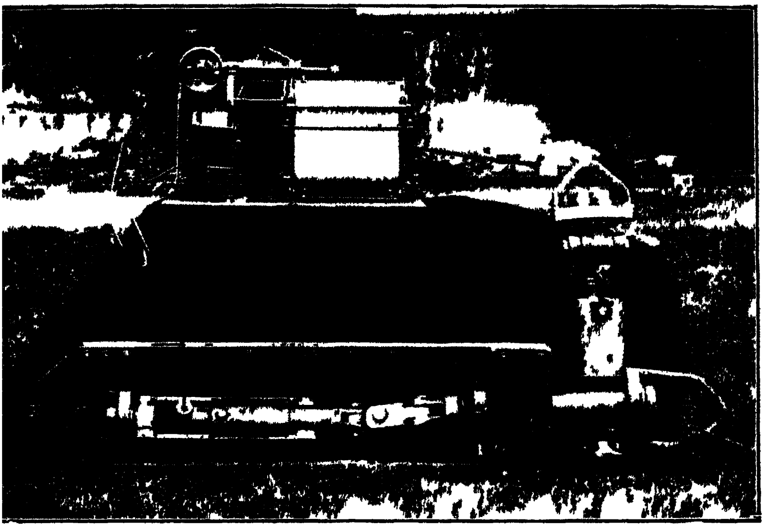

FIG 4.—Traction Dynamometer and Drawbar Frame showing larger pressure unit on right

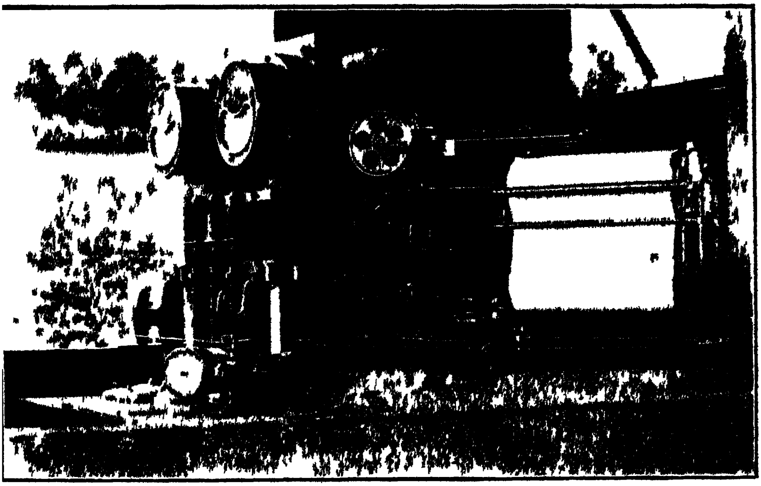

FIG 5.—View of Interior of Large Dynamometer Car

it was not always possible to apply the exact load required. In reading the fuel consumptions in these tests attention should be paid to the load actually applied.

(*d*) In the results of the Governor tests, the remarks under the heading "Closeness of Range" are based on the differences between the pulley speeds recorded during the fractional load tests and the pulley speed recorded during the Rated Load test, and refer to the behaviour of the governor in maintaining the average pulley speed at about the same value at all loads. The largest percentage difference of the pulley speed from the average value recorded during the rated load test was calculated in each case and the tractors were classed as under :—

Maximum variation	under 5 per cent.	Very good.
" "	between 5 per cent. and 15 per cent.	Good.
" "	" 15 per cent. and 25 per cent.	Fair.
" "	" 25 per cent. and 40 per cent.	Poor.
" "	over 40 per cent. . . .	Bad.

The remarks under the heading "Steadiness of Control" are based on the observations made during test No. 3, and refer to the behaviour of the governor in preventing fluctuations in the pulley speed during sudden temporary changes of load.

(*e*) In the Blackstone, Aveling & Porter and Lanz machines no remarks appear under the heading "Governor Range." In these cases a hand setting of the governor is necessary when a permanent change of load is made.

(*f*) All adjustments or repairs carried out during the belt tests are included in the notes on individual tractors later in the Report.

(*g*) The average fuel consumptions recorded during the belt tests for the different classes of tractor were as follows :—

	Rated Load.	Maximum Load.
Paraffin Tractors :	0·86 lb./h.p./hr.	0·87 lb./h.p./hr.
Petrol Tractors :	0·80 " "	0·78 " "
Fuel Oil Tractors.		
Full Diesel	0·53 " "	0·58 " "
Semi-Diesel	0·69 " "	0·83 " "

6. DRAWBAR TESTS.

Two drawbar tests were carried out on each tractor :—

1. A test of 8 hours' duration at declared Rated Load.
2. A test to determine the Maximum Drawbar Horse Power in each forward gear.

Test No. 1 was carried out on hay stubble with a loose loam and sand top soil which provided a wheel grip about equal to that to be expected on average once cultivated land. Measurements of mean drawbar horse-power, speed, and fuel and water consumption were made. It was found that the duration of the test was not long enough to allow an accurate determination of the consumption of lubricating oil to be made. Each tractor was, however, drained and refilled with new oil before the test and, on redraining the tractor after the test, a sample of the used oil was taken for the purpose of dilution analysis. Throughout this test the governor of each tractor was operating at its normal setting.

The maximum drawbar tests were carried out on hay stubble with a chalk subsoil and a considerable clay mixture in the top soil. No tests were carried out within twenty-four hours after any appreciable rainfall, and the majority of the tractors, particularly those fitted with wheel scrapers, had no difficulty in obtaining a reasonably good grip. Measurements of drawbar pull, speed and wheel slippage were made. In most cases several distinct tests were carried out in each gear at slightly different speeds. In each case the particular test included in the results is that in which the greatest drawbar horse-power was developed.

In these tests the governor of the tractor was either set at its upper limit, or disconnected entirely, at the discretion of the operator.

The results of all drawbar tests are given in detail in Table II.

NOTES ON TABLE II.

Rated Load Tests.

(*a*) During the Rated Load tests each machine ran for approximately 8 hours. The figures recorded in the Table under the heading "Duration of Test" refer only to the period of time over which the fuel consumption was measured.

(*b*) Two separate determinations of the percentage dilution of lubricating oil were made in the research laboratories of Messrs. Shell Mex, Ltd., and the Anglo-Persian Oil Co. respectively. The result given in the Table is the mean of the two determinations. In three cases which are noted in the Table no sample of lubricating oil was taken.

The average figures obtained for the oil dilution in the different classes of tractor were as follows :—

Paraffin Tractors	8·8 per cent. dilution.
Petrol Tractors	1·9 ,, ,, ,,
Fuel Oil Tractors	1·0 ,, ,, ,,

(*c*) The average fuel consumptions recorded for the different

TABLE I.—*Detailed*

Official No of Tractor	Name of Tractor	Nominal Belt Rating	Nominal Pulley Speed	Rated Load Tests					Maximum Load Tests				
				Duration of Test	Mean Power Delivered	Mean Pulley Speed	Total Fuel Used	Fuel Consumption.	Duration of Test	Mean Power Delivered	Mean Pulley Speed	Total Fuel Used	Fuel Consumption
		H P	R P M	Mins	H P	R P M	Lb	Lb per H P Hr	Mins	H P	R P M	Lb	Lb per HP Hr
	Paraffin Tractors.			*					*				
1	I.H.C. Farmall . . .	18	693	20	**18·7**	701	4·8	**0·77**	20	**20·9**	698	5·8	**0·83**
2	International "10 20"	20	645	30	**20·3**	655	9·0	**0·89**	60	**23·4**	629	22·7	**0·97**
3	International "15/30"	36	595	30	**36·5**	593	13·4	**0·73**	30	**39·0**	591	14·9	**0·76**
4	Peter Brotherhood .	26	620	60	**26·8**	666	25·9	**0·97**	60	**31·3**	646	27·0	**0·86**
6	Vickers	40	780	60	**41·4**	810	35·0	**0·85**	60	**44·9**	818	39·9	**0·89**
7	Massey Harris "12 20"	20	540	60	**20·5**	559	15·0	**0·73**	60	**27·1**	598	27·4	**1·01**
8	Massey Harris "20/30"	30	475	60	**30·5**	477	25·3	**0·83**	60	**33·2**	493	25·3	**0·76**
9	Case Model C . . .	27	973	60	**27·2**	1009	19·9	**0·73**	60	**29·8**	997	22·6	**0·76**
10	Case Model L . . .	40	780	60	**40·5**	778	35·5	**0·88**	60	**47·3**	784	44·5	**0·94**
12	Rushton (Standard) .	20	1200	60	**20·5**	1198	21·7	**1·06**	60	**23·9**	1253	20·6	**0·86**
23	Fordson . . .	20	1100	30	**20·1**	1079	8·5	**0·84**	25	**20·8**	1106	7·0	**0·81**
29	Austin	15	590	60	**15·3**	592	15·6	**1·02**	40	**19·1**	599	12·2	**0·95**
	Petrol Tractors.												
11	Rushton (Roadless) .	28	1200	60	**28·3**	1197	20·6	**0·73**	60	**32·2**	1284	23·8	**0·74**
15	Caterpillar "10" . .	14	1050	60	**14·4**	1050	12·2	**0·85**	35	**16·1**	1051	8·2	**0·87**
16	Caterpillar "15" . .	20	950	35	**20·6**	948	10·1	**0·84**	60	**23·3**	959	19·2	**0·82**
17	Caterpillar "20" .	25	836	30	**25·3**	841	10·1	**0·80**	60	**29·4**	840	23·3	**0·79**
18	Caterpillar "30" .	30	850	60	**30·9**	835	25·4	**0·82**	60	**38·2**	850	25·3	**0·66**
19	Caterpillar "60"	60	650	60	**60·2**	653	44·4	**0·74**	60	**66·7**	655	50·5	**0·76**
22	Latil . . .	20	800	60	**21·0**	826	16·5	**0·79**	60	**28·2**	818	19·8	**0·70**
24	Citroen . . .	13·5	950	60	**13·6**	963	12·8	**0·94**	55	**16·4**	1232	14·4	**0·96**
26	Linke	45	600	60	**44·4**	612	32·7	**0·74**	60	**47·6**	637	34·3	**0·72**
28	Austin	20	590	60	**19·9**	593	14·4	**0·72**	60	**24·1**	595	17·6	**0·73**
	Diesel Tractors.												
5	Blackstone	26	595	60	**26·3**	617	13·7	**0·52**	60	**37·7**	624	22·0	**0·58**
13	Mercedes Benz . . .	20	780	30	**20·6**	808	5·4	**0·52**	60	**23·9**	816	13·8	**0·58**
14	McLaren	27·5	1000	65	**27·0**	1078	16·6	**0·57**	60	**30·5**	1100	18·2	**0·60**
20	Marshall	24	550	60	**24·1**	567	12·1	**0·50**	30	**29·1**	559	7·8	**0·54**
21	Aveling & Porter . .	38	700	60	**39·4**	703	21·6	**0·55**	60	**42·4**	723	25·2	**0·60**
	Semi-Diesel Tractors.												
27	Lanz	30	540	60	**30·2**	550	22·5	**0·74**	30	**31·0**	534	15·2	**0·98**
30	Munktells "15/22" .	22	700	60	**22·4**	701	15·8	**0·71**	60	**24·4**	700	18·7	**0·77**
31	Munktells "20/30" .	30	650	55	**30·3**	662	18·9	**0·68**	45	**35·2**	720	20·5	**0·78**
32	Hofherr-Schrantz . .	30	580	50	**30·5**	581	16·3	**0·64**	30	**33·3**	565	13·4	**0·80**

* See note (*b*) on page 216.

Results of Belt Tests.

Fractional Load Tests												Governor Tests		
Three-quarter Load			Half Load			Quarter Load			No Load					
Mean Power Delivered H P	Mean Pulley Speed R P M	Fuel Consumption Lb per HP Hr	Mean Power Delivered H P	Mean Pulley Speed R P M	Fuel Consumption Lb per HPHr	Mean Power Delivered H P.	Mean Pulley Speed R P M	Fuel Consumption Lb per H PHr	Mean Pulley Speed R P M.	Fuel Consumption Lb per Hr	Ratio of Fuel Cons. to ditto at Rated Load	Steadiness of Control	Closeness of Range	Official No. of Tractor
13·3	709	1·48	8·5	720	1·89	2·6	732	5·04	735	8·4	0·58	Good	V. Good	1
15·0	660	1·31	9·8	668	1·55	6·0	720	2·40	740	12·8	0·71	Good	Good	2
22·0	635	1·18	14·8	645	1·42	7·3	648	2·61	660	12·0	0·45	Good	Good	3
22·1	710	1·09	13·6	760	1·76	4·0	800	5·35	840	22·0	0·85	Good	Poor	4
31·3	830	1·04	19·8	840	1·21	10·3	850	2·16	980	16·0	0·46	Good	Fair	6
16·3	585	0·86	10·8	600	1·04	5·4	600	1·70	610	9·2	0·61	Good	Good	7
22·1	484	0·87	15·7	490	0·97	7·6	490	1·84	495	10·4	0·41	Good	V. Good	8
20·3	1020	0·79	15·0	1025	0·91	6·7	1050	1·67	1100	9·2	0·46	Good	Good	9
30·3	788	0·87	20·0	793	0·94	10·8	805	1·45	845	15·2	0·43	Good	Good	10
16·1	1480	1·37	11·6	1540	1·55	4·5	1600	3·80	1950	13·6	0·63	Fair	Bad	12
15·7	1200	0·99	10·9	1215	1·16	3·1	1260	3·30	1290	8·4	0·50	Good	Fair	23
11·4	600	1·09	7·8	598	1·33	4·3	625	2·30	680	8·8	0·56	Fair	Good	29
21·4	1440	0·76	13·9	1480	1·25	4·3	1600	3·05	1870	11·4	0·55	Good	Bad	11
10·4	1020	1·04	7·1	1150	1·29	2·6	1170	3·08	1180	6·0	0·49	Fair	Good	15
14·9	1020	0·96	9·8	1025	1·31	7·1	1080	1·79	1110	8·8	0·51	Good	Good	16
18·8	860	1·02	12·9	880	1·33	6·7	1000	2·03	885	9·2	0·46	Good	Fair	17
22·6	860	0·94	15·7	870	1·22	6·9	1000	2·54	910	10·8	0·43	Good	Fair	18
45·2	670	0·87	30·7	684	1·05	16·1	695	1·78	710	23·2	0·52	Good	Good	19
15·8	840	0·91	13·6	910	0·91	4·3	900	2·50	900	9·2	0·56	Good	Good	22
10·4	990	1·09	7·0	995	1·37	3·9	1010	2·29	1035	4·4	0·34	Good	Good	24
34·9	655	0·84	22·5	660	1·17	11·8	675	1·42	690	10·8	0·33	Good	Good	26
14·3	590	0·84	9·4	620	1·09	4·1	608	1·92	608	6·0	0·42	Poor	Good	28
19·1	600	0·56	9·8	590	0·65	6·2	590	1·10	592	6·8	0·50	Fair	—†	5
15·3	795	0·50	11·6	811	0·52	5·4	831	0·90	863	3·2	0·30	Good	Good	13
22·8	1070	0·61	15·5	1075	0·62	10·0	1080	0·88	1140	5·2	0·34	Good	Good	14
19·2	570	0·62	15·5	570	0·59	7·2	572	0·72	572	4·0	0·33	Good	V. Good	20
30·5	720	0·52	19·9	715	0·60	10·7	710	0·84	725	5·4	0·25	Poor	—†	21
22·3	555	0·62	16·1	550	0·82	5·0	555	2·04	550	5·4	0·24	Fair	—†	27
15·5	710	0·85	11·0	716	1·06	5·6	719	1·93	712	6·4	0·40	Fair	Good	30
22·6	680	0·88	16·1	680	1·09	7·9	680	1·72	750	8·4	0·41	Poor	Good	31
21·9	600	0·64	15·2	610	0·79	7·8	625	1·08	610	6·0	0·31	Good	Good	32

† In these Tractors the throttle is hand operated to suit Fractional Loads.

classes of tractor during the 8 hours' Rated Load test were as follows:—

Paraffin Tractors . . .	1·21 lb. per h p. hour.
Petrol Tractors	0·97 ,, ,,
Fuel Oil Tractors	
Full Diesel . . .	0 80 ,, ,,
Semi-Diesel	1·03 ,, ,,

(*d*) All adjustments or repairs carried out during the drawbar tests are included in the notes on individual tractors later in the Report.

Maximum Drawbar Tests.

(*a*) The following tractors were fitted with extension rims during the tests:—

Lanz (bottom and intermediate gears only).
Massey-Harris 12/20 (bottom gear only).
Massey-Harris 20/30.
Case 17/27 (bottom and intermediate gears only).
Case 26/40.

(*b*) Owing to the changing ground conditions over the period covered by the tests there was a considerable variation in the wheel slippage recorded for different tractors. In the following cases the wheel slippages were distinctly higher than those recorded in other tests on the same day:—

Lanz Tractor. Although the ground was very hard at the time of its test, extension rims were fitted to this tractor. For this reason there was insufficient penetration of the ground by the spade lugs and increased slip resulted.

McLaren and Mercedes-Benz Tractors. These were the only tractors whose wheels were fitted with angle iron strakes as opposed to some type of spade lug or cleat. Although the wheels remained reasonably clean throughout, they had considerable difficulty in obtaining a grip in bottom gear.

Aveling & Porter Tractor. No wheel scrapers were fitted and the efficiency of the spade lugs was greatly diminished by the soil packing between them.

Case Model C Tractor. The rather high slippage recorded on this tractor was no doubt influenced by the low weight of the machine in comparison to its power.

Rushton Standard Tractor. The cleats fitted to the wheels were not deep enough for the prevailing conditions.

7. Field Tests.

(*Ploughing and Cultivating*).

All ploughing tests were carried out on hay stubbles on a chalk subsoil with a good deal of clay in the top soil. All ploughing was done at a depth of about 4½ inches and the same land was afterwards used for the cultivating tests. Four hours each of ploughing and cultivating were done by each tractor. No attempt was made to load the larger tractors to their full capacity and no power measurements were made.

The object of the tests was simply to afford an opportunity of observing the performance of the machines when working with implements and to include 8 hours of actual agricultural work in the running time of each as a further test of general efficiency.

The performance of every tractor in these tests was satisfactory, and no tractor appeared to any disadvantage in handling implements in the field. In two cases stoppages for minor repairs were recorded—these are included in the following notes on individual tractors.

8. DETAILS OF STOPPAGES FOR REPAIRS, ETC.

The following stoppages for repairs or replacements were recorded during the tests :—

Official
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2. *International* "10/20." During the Rated Drawbar test, the junction of the fuel pipe with the filter became unsweated and was repaired. Some fuel was lost before the break was noticed and therefore an unduly high fuel consumption was recorded. The clutch was also adjusted during the same test.
3. *International* "15/30." During the Rated Drawbar test, the wheel scrapers fouled the spade lugs and were removed. A second set of scrapers fitted on the drawbar also fouled the spade lugs while the tractor was turning during the Maximum Drawbar tests and these were also removed.
5. *Blackstone.* The clutch was adjusted during the Rated Drawbar test.
11. *Rushton "Roadless."* During the Rated Drawbar test two new fan belts were fitted, together with a new fuel pipe.
12. *Rushton Standard.* During the belt tests a crack developed in the exhaust manifold and a new manifold and carburetter were fitted. The carburation was faulty throughout the tests, and attempts at adjustment were only partially successful.
13. *Mercedes-Benz.* During the Rated Drawbar test there was a stoppage due to a block of the fuel pipe and pump.
14. *McLaren.* During the Rated Drawbar test the governor was adjusted. During the Maximum Drawbar tests the clutch was adjusted. During the Field tests

TABLE II.—*Detailed*

Official No. of Tractor	Name of Tractor	Nominal Drawbar Rating	Nominal Speeds in Forward Gears			8 Hours Rated Load Test								
			1st or Bottom Gear	2nd or Intermediate Gear	3rd or Top Gear	Duration of Test	Gear in which Tested	Mean Speed during Test	Mean Drawbar Pull	Mean Drawbar Power	Total Fuel Used	Fuel Consumption	Dilution of Lubricating Oil during Test	Water Used in Test
		H P	MPH	MPH	MPH	Hours		MPH	Lb	H P	Lb	Lb per H P Hr	Per cent	Lb
	Paraffin Tractors.					†								
1	I.H.C. Farmall . .	9	2·0	3·0	4·0	8·0	2	3·5	1180	**11·0**	108	**1·23**	10·8	2
2	International "10 20"	10	2·0	3·0	4·0	8·2	2	3·6	1250	**12·0**	147‡	**1·49‡**	11·3	10
3	International "15/30"	22	2·5	3·3	3·8	5·0	2	3·4	2470	**22·4**	135	**1·21**	12·6	10
4	Peter Brotherhood .	22	2·6	3·4	5·1	8·0	2	3·4	2140	**19·4**	192	**1·24**	3·5	50
6	Vickers	23	2·0	3·0	4·5	7·7	2	3 2	2800	**23·9**	240	**1·31**	7·9	115
7	Massey Harris "12/20"	12	2·3	3·3	4·3	8·0	2	3·4	1610	**14·6**	117	**1·00**	10·4	Nil
8	Massey Harris "20/30"	20	2·8	—	3·3	7·5	3	3·1	2430	**20·1**	162	**1·07**	9·1	4
9	Case Model C . . .	17	2·3	3·3	4·5	3·0	2	3·1	1980	**16·4**	48	**0·98**	9·1	Nil
10	Case Model L . . .	26	2·5	3·3	4·0	8·0	2	3·3	2890	**25·4**	229	**1·13**	9·8	Nil
12	Rushton (Standard) .	14	1·6	2·6	4·3	4·3	2	2·8	1690	**12·6**	79	**1·40**	9·3	Nil
23	Fordson	11	1·5	2·5	6·8	8·1	2	3·1	1250	**10·3**	94	**1·13**	5·6	9
29	Austin	11	1·8	2·0	3·0	7·5	3	3·4	1270	**11·5**	112	**1·29**	6·7	7
	Petrol Tractors.)													
11	Rushton (Roadless .	18	1·6	2·6	4·3	7·5	2	2·6	2910	**20·2**	158	**1·04**	1·4	28
15	Caterpillar "10" .	10	2·0	2·6	3·5	7·8	2	2·6	1530	**10·6**	76	**0·92**	2·2	1
16	Caterpillar "15" . .	15	2·0	2·6	3·6	8·3	2	2 5	2250	**15·0**	120	**0·97**	1·7	1
17	Caterpillar "20" .	20	1·8	2·6	3·6	8·1	2	2·6	2970	**20·6**	164	**0·98**	3·9	1
18	Caterpillar "30"	25	1·7	2·7	3·6	8·2	2	2·6	3560	**24 7**	172	**0·85**	1·5	2
19	Caterpillar "60"	50	1·9	2·6	3·7	6·8	2	2·6	6880	**47·7**	323	**1·00**	1·8	3
22	Latil . .	17	2·3	4·2	7·5	8·2	1	2 3	2770	**17·0**	125	**0·90**	1·3	Nil
24	Citroen . .	12	0·9	1·6	3·0	8·3	3	3·0	1590	**12·7**	108	**1·02**	1·3	2
26	Linke . . .	35	2·7	3·7	5·0	8·2	2	3·5	3480	**32·5**	272	**1·02**	2·7	2
28	Austin	12·5	1·8	2·0	3·0	8·0	3	3·5	1370	**12·8**	101	**0·99**	1·0	10
	Diesel Tractors.													
5	Blackstone	20	2·7	3·2	5·0	7·5	2	3·2	2440	**20 8**	135	**0·84**	1·0	223
13	Mercedes Benz . .	14	1·9	2·8	3·8	7·5	2	2·7	1850	**13·3**	81	**0·81**	1·2	287
14	McLaren . . .	16	2·1	2·9	6·4	8·0	2	3·0	2000	**16·0**	101	**0·79**	0·9	Nil
20	Marshall . .	16	1·7	3·0	5·0	7·7	2	3·6	1680	**16·1**	101	**0·82**	—*	26
21	Aveling & Porter . .	22	3·0	4·0	6·0	8·0	1	3·0	2690	**21·5**	124	**0·73**	1·1	4
	Semi-Diesel Tractors.													
27	Lanz	15	2·0	3·0	4·0	8·2	2	3·1	1980	**16·4**	115	**0·86**	0·9	1
30	Munktells "15/22" .	15	2·2	2·8	3·6	8·1	2	3·3	1760	**15·5**	118	**0·94**	—*	3
31	Munktells "20/30" .	20	2·3	2·9	3·9	7·5	2	3·3	2120	**18·6**	146	**1·05**	—*	Nil
32	Hofherr-Schrantz . .	20	2·5	—	3·5	7·6	1	2·7	2320	**16·7**	160	**1·26**	—*	47

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* These Tractors are lubricated by a central non-circulating distribution system.

Results of Drawbar Tests.

Maximum Drawbar Tests												Weight as Tested in 8 Hours Test	Mean Turning Radius	Official No. of Tractor
Bottom Gear				Intermediate Gear				Top Gear						
Actual Speed during Test	Mean Drawbar Pull	Drawbar Horse Power	Wheel or Track Slippage	Actual Speed during Test	Mean Drawbar Pull	Drawbar Horse Power	Wheel or Track Slippage	Actual Speed during Test	Mean Drawbar Pull	Drawbar Horse Power	Wheel or Track Slippage			
M P H	Lb	H P	Per cent.	M P H	Lb	H P	Per cent.	M P.H	Lb	H P	Per cent	Lb	Feet	
2·06	2510	**13·8**	13·6	2·96	1680	13·3	6·8	4·50	970	11·6	2·9	4120	4½	**1**
2·10	3030	**17·0**	10·7	3·08	1960	16·1	10·7	4·09	1240	13·5	4·8	4520	12	**2**
3·00	3660	**29·3**	7·0	3·63	2690	26·0	7·0	3·81	2250	22·9	7·0	6720	13	**3**
					Tractor withdrawn from Test									**4**
					Tractor withdrawn from Test									**6**
2·59	2820	**19·5**	11·5	3·48	1870	17·4	9·6	4·76	1280	16·3	3·8	3590	8½	**7**
2·02	3080	**24·0**	6·4	No Intermediate Gear				3·52	2530	23·7	10·6	4690	10	**8**
2·50	3280	**21·9**	17·8	3·31	2300	20·3	12·2	4·69	1540	19·3	Nil	3700	8¾	**9**
2·50	4940	**32·9**	10·6	3·36	3590	32·2	8·5	4·17	2750	30·6	4·2	5200	10½	**10**
1·70	2710	12·3	17·6	2·50	1960	**13·1**	15·7	4·37	1060	12·4	2·0	3950	12	**12**
					Tractor withdrawn from Test									**23**
1·73	2850	**13·1**	15·0	2·01	2170	11·6	12·5	3·08	1290	10·6	5·0	4060	8	**29**
1·69	5010	22·6	20·6	2·65	3500	**24·7**	5·9	4·41	2040	24·0	1·5	5650	6½	**11**
2·05	2760	15·1	2·1	2·59	2270	**15·7**	Nil	3·52	1375	12·9	Nil	4420	7¾	**15**
1·88	4160	**20·9**	2·3	2·56	3040	20·8	2·3	3·52	1920	18·0	Nil	6020	7¾	**16**
1·78	5560	**26·4**	5·0	2·53	3520	23·7	2·5	3·62	2180	21·1	2·5	7670	9½	**17**
1·63	7540	**32·8**	5·3	2·59	4300	29·7	1·3	3·49	2760	25·7	1·3	10160	10½	**18**
1·91	11640	**59·3**	1·7	2·59	7760	53·6	1·7	3·63	4940	47·8	Nil	19450	12	**19**
2·47	3000	**19·8**	9·7	3·52	1980	18·6	8·1		Not Tested			5970	10¾	**22**
1·38	3380	12·4	10·2	1·96	2500	**13·1**	4·1	3·75	1210	12·1	2·0	3810	18½	**24**
2·74	4680	**34·2**	5·0	3·57	3460	33·0	3·6	5·00	1950	26·0	3·6	7620	7½	**26**
1·77	2900	13·7	15·0	2·00	2750	**14·7**	15·0	2·96	1760	13·9	10·0	4060	8	**28**
2·62	3860	**27·0**	9·3	3·31	2750	24·3	10·5	5·00	1300	17·3	4·6	7300	17¾	**5**
1·88	2500	12·5	22·2	2·59	1980	**13·7**	8·9	3·26	1430	12·4	2·2	6100	13½	**13**
2·25	2600	15·6	19·5	2·78	2590	**19·2**	7·3		Not Tested			6090	16	**14**
1·88	4270	**21·4**	6·4	3·26	2300	20·0	12·8	5·40	1040	15·0	Nil	6990	12½	**20**
2·88	3900	**30·0**	20·5	3·88	2600	26·9	9·1	5·60	1560	23·4	4·5	7300	16½	**21**
2·10	4050	22·7	18·4	2·92	2980	**23·2**	8·0	4·17	1870	20·8	5·3	6200	13	**27**
2·16	2790	**16·1**	2·6	2·90	2030	15·7	Nil	3·75	1350	13·5	Nil	6010	11¾	**30**
2·24	3540	**21·1**	7·4	3·04	2540	20·6	2·9	4·33	1820	21·0	Nil	6830	13½	**31**
2·39	3540	**22·6**	9·2	No Intermediate Gear				3·52	2130	20·0	2·6	6600	17	**32**

† See note (*a*) on page 219. ‡ See note on this Tractor on page 223.

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there was a stoppage due to a block of the fuel pipe and pump.

15. "*Caterpillar Ten.*" The air heating valve was adjusted during the Belt tests.

20. *Marshall.* During the Rated Drawbar test there were two stoppages on account of the fuel pump valve sticking. The clutch was dismantled and adjusted to cure slipping before the Maximum Drawbar tests. During the Field tests a stone lodged in the flywheel casing and caused a short stoppage.

22. *Latil.* Before the Maximum Drawbar tests the cylinder head was removed and the valves ground in. The pulley gearing ran very hot during the belt tests.

24. *Citroën-Kegresse.* During the Maximum Drawbar tests there was a short stoppage to take up slack in the tracks.

28. *Austin* (Petrol). At the start of the tests the governor was sticking badly and there was trouble with the carburetter adjustment: a new main jet was fitted.

29. *Austin* (Paraffin). Some trouble was experienced during the Rated Drawbar test with the carburetter, probably due to its being set for low-grade French paraffin; this may have affected the fuel consumption throughout. There was also some difficulty in adjusting the governor to normal setting.

9. SUMMARISED RESULTS AND NOTES ON COSTS.

In the preceding sections of the Report, all the results obtained in the Belt and Drawbar tests have been tabulated. In the present section the most important results are summarised for easier reference, the Tractors being divided into four groups according to the fuel used. In the Tables which follow the tractors have been arranged in the order of their maximum drawbar powers recorded in the tests. This arrangement is in no sense an order of merit, but has been adopted merely to facilitate comparison between tractors of similar power outputs. The maximum belt and drawbar horse-powers have been taken directly from Tables I and II. The other items tabulated are explained in the following notes.

(*a*) *Comparative Rating.* It will be seen from the results already given that in both belt and drawbar tests there is a considerable variation amongst the different tractors in the amount by which the maximum power delivered exceeds the rated power as stated by the entrant. American tractors are commonly rated under the code of the American Society of

Agricultural Engineers and the Society of Automotive Engineers, which lays down that the Drawbar Rating shall not exceed 75 per cent. of the maximum horse-power actually obtainable on the drawbar, and that the Belt Rating shall not exceed 85 per cent. of the maximum horse-power actually obtainable on the belt. Continental tractors, on the other hand, are often rated at or near to the maximum power of which they are capable; while in the case of British machines no uniform procedure is adopted.

For the purpose of easy comparison of the working capacities of the various tractors taking part in these Trials, a Comparative Rating of each has been worked out on the basis of the tests and is included in the following Tables.

In the present tests the results for the rated and maximum tests have shown that

(1) the average rated drawbar output is 78 per cent. of the average maximum drawbar output.

(2) the average rated belt output is 85 per cent. of the average maximum belt output.

For each tractor, therefore, the maximum output figure has been multiplied by 0·78 and 0·85 (drawbar and belt respectively) and the resulting figure is put down in the Tables as Comparative Rating.

By maximum power, or output, is meant in all cases the maximum output which can be *maintained over the period of the test.*

(*b*) *Fuel Consumptions.* These have been taken from Tables I and II but are here expressed as horse-power-hours per gallon of fuel instead of in lb. per horse-power-hour as actually measured.

(*c*) *Lb. weight per Maximum Drawbar Horse Power.* The weight of each tractor as tested has been given in Table II. In this column the weight has been divided in each case by the maximum drawbar horse-power.

(*d*) *Price per Rated Drawbar Horse-Power.* In this column the price of each tractor has been divided by the comparative drawbar rating. It should be noted, however, that the prices are not all given on the same basis. In some cases the price includes delivery, while in others the cost of carriage from a foreign port may have to be added.

(*e*) *Fuel Cost per* 100 *Horse-Power-Hours of Work.* These figures have been deduced from the fuel consumptions previously given, using the following average prices of the various fuels, when bought in barrels of 40 to 50 gallons capacity:—

	s.	*d.*	
Paraffin	0	10	per gallon.
Petrol	1	5	,, ,,
Diesel Oil . . .	0	5¾	,, ,,

An estimate based on the performances of 13 tractors, indicated that 100 horse-power-hours of work on the drawbar were required to plough 5½ acres of the land on which the Ploughing Tests were conducted, at a depth of 4½ inches.

(*f*) *Oil Consumption.* Except in the case of some Diesel and semi-Diesel tractors, it was not possible to get an accurate measurement of the oil consumption during the tests. In any case, in both paraffin and petrol tractors, the amount of oil actually consumed is small in comparison with the amount of oil which is drained out and discarded at intervals in carrying out the makers' oiling instructions. No figures for the oil consumptions of individual tractors are given therefore, but after each of the following Tables an estimate of the average oil consumption of each class of tractor is given. For the paraffin and petrol classes this figure has been based on the average oiling instructions issued by the makers, while for the tractors using fuel oil the figure has been based on the average consumptions observed in the Rated Load Drawbar tests. The price of lubricating oil has been taken at 5*s*. per gallon.

Group 1. *Paraffin Tractors.*

All the tractors in this group are of the wheel type and they differ very little from one another in overall design. All of them are models in regular production and each is well known at least in its country of origin. Generally speaking, this group represents the type of tractor which has been seen at work in this country during the last few years.

TABLE III.—*Paraffin Tractors.*

Official No.	Name of Tractor.	Max D B H P.	Max Belt H P.	Comparative Rating H P.		H P Hours per Gallon of Fuel on Rated Load.		Fuel Cost per 100 H P Hours Work at Rated Load Shillings		Weight per Max D B H P	Price per (comparative) Rated D B H P
				D B	Belt	D B	Belt	D B	Belt	lbs.	£
29	Austin	13·1	19·1	10·0	16·5	6·36	8·04	13·1	10·4	310	21·0
12	Rushton . . .	13·1	23·9	10·0	20·5	5·86	7·73	14·2	10·8	301	21·0
1	I.H.C. Farmall .	13·8	20·9	10·5	18·0	6·67	10·65	12·5	7·8	298	21·0
2	I.H.C. "10/20" .	17·0	23·4	13·0	20·0	5·50*	9·25	15·1*	9·0	266	16·9
7	Massey "12 20".	19·5	27·1	15·0	23·0	8·20	11·23	10·3	7·4	184	14·7
9	Case "C". . .	21·9	29·8	17·0	25·5	8·36	11·23	10·0	7·4	169	14·6
8	Massey "20/30".	24·0	33·2	19·0	28·0	7·66	9·89	10·9	8·4	195	15·3
3	I.H.C. "15/30" .	29·3	39·0	23·0	33·0	6·78	11·23	12·3	7·4	230	13·9
10	Case "L" . .	32·9	47·3	25·5	40·0	7·25	9·33	11·5	8·9	158	13·7
	Averages					6·96	9·84	12·2	8·6	234	16·9

Estimated Average Lubricating Oil Consumption = 0·36 Gals. (costing 1·8 Shillings) per 100 Horse Power Hours.

* See note on this tractor on page 223.

The first point of interest which arises out of a study of this Table concerns the fuel consumption. Taking first the figures given for the belt fuel consumption, it will be seen that no one tractor gives a better result than all the others. Actually the best figure recorded—11·23 horse-power-hours per gallon—was achieved by three machines of three different makes.

On the whole the results so far as Belt fuel consumptions and costs are concerned do not differ very much from one another. In the Drawbar fuel consumptions too, while one or two machines give a rather lower figure, there is little to choose between the performances of the majority of the machines.

In the weights of the various tractors much more variation is seen. The average weight per maximum drawbar horse-power is 234 lb., but the individual values vary from 158 lb. to 310 lb. There is an obvious tendency for the weight per unit power to decrease as the comparative rating of the tractor increases. In other words, in this group the larger tractors are on the whole lighter in proportion to their power than the smaller ones.

The figures relating to the prices of the machines show that the larger machines generally cost less in proportion to their power than the smaller ones.

Group 2. *Petrol Tractors.*

Of the ten tractors in this group, one is of the ordinary wheel type, seven are of the track-laying type, while the other two are dual purpose machines designed for road as well as agricultural work. Of these two one has a four-wheel drive, while the other is a semi-track-laying machine with rubber tracks. On the whole they represent types which have not yet been in general use in this country, although no one of them can be regarded as being in any way an experimental model.

In this group again there is very little to choose between the fuel consumptions of the majority of the machines both on belt and drawbar. While this is partly due to the fact that five of these machines are products of the same firm, yet it appears that a high standard of efficiency has been attained by designers generally.

The costs of fuel per 100 horse-power-hours are, of course, considerably higher than those in the Paraffin group on account of the higher price of petrol. No very marked variations from the average weight per maximum drawbar horse-power are evident.

In considering the prices of the Tractors in this group, it is not fair to include the two dual purpose machines, Nos. 22

and 24. Naturally the first cost of these machines is higher than that of the remainder.

TABLE IV.—*Petrol Tractors.*

Official No.	Name of Tractor.	Max. D B H P.	Max. Belt H P.	Comparative Rating H P.		H.P. Hours per Gallon of Fuel on Rated Load		Fuel Cost per 100 H.P. Hours Work at Rated Load Shillings		Weight per Max. D.B.H.P.	Price per (comparative) Rated D B.H P
				D.B.	Belt.	D B.	Belt.	D.B.	Belt.	lbs.	£
24	Citroen	13·1	16·4	10·0	14·0	7·33	7·97	19·3	17·8	292	46·2
28	Austin	14·7	24·1	11·5	20·5	7·55	10·40	18·8	13·7	275	18·3
15	"Caterpillar 10".	15·7	16·1	12·0	13·5	8·12	8·81	17·4	16·1	282	24·1
22	Latil	19·8	28·2	15·5	24·0	8·30	9·48	17·0	15·0	301	42·2
16	"Caterpillar 15".	20·9	23·3	16·5	20·0	7·72	8·91	18·4	15·9	288	23·6
11	Rushton (Roadless)	24·7	32·2	19·5	27·5	7·20	10·25	19·7	13·9	229	22·3
17	"Caterpillar 20".	26·4	29·4	20·5	25·0	7·64	9·38	18·6	15·2	291	24·6
18	"Caterpillar 30".	32·8	38·2	25·5	32·5	8·81	9·13	16·1	15·6	310	25·3
26	Linke	34·2	47·6	26·5	40·5	7·33	10·15	19·3	14·0	223	20·0
19	"Caterpillar 60".	59·3	66·7	46·5	56·5	7·48	10·15	18·9	14·0	327	24·7
	Averages	.	.	.	.	7·75	9·46	18·4	15·1	282	27·1

Estimated Average Lubricating Oil Consumption = 0·20 Gals. (costing 1·0 Shilling) per 100 Horse Power Hours.

The average price per rated Drawbar horse-power of the remainder is £22·9. This is appreciably higher than the average cost of tractors in Group 1, due no doubt to the preponderance of track-laying machines.

The weights per maximum drawbar horse-power of the various tractors in this group are rather higher than in Group 1.

Group 3. *Fuel Oil Tractors.*

The tractors in this group are all of the wheel type and fall into two classes—those with Semi-Diesel or hot-bulb engines and those with Full Diesel engines. Tractors of the former class have been occasionally seen in this country in the last few years and are well known on the Continent. The latter class represents a practically new departure in Tractor practice and most of the machines are making their first public appearance in these Trials.

The surprising feature in this Table is the small variation in fuel consumption amongst the Full Diesel machines. This is the more surprising in that not only are the tractors generally in the experimental stage, but, as reference to the specifications given earlier will show, four different types of engine are represented.

TABLE V.—*Fuel Oil Tractors.*

Official No	Name of Tractor	Max. D B H P	Max. Belt H.P.	Comparative Rating H. P.		H P Hours per Gallon of Fuel on Rated Load		Fuel Cost per 100 H P. Hours Work at Rated Load Shillings		Weight per Max. D B H P	Price per (comparative) Rated D B H P
				D B	Belt	D B.	Belt.	D B.	Belt	lb	£
	Diesel.										
13	Mercedes Benz .	13·7	23·9	10·5	20·5	10·70	16·65	4·5	2·9	445	34·3
14	McLaren . . .	19·2	30·5	15·0	26·0	10·95	15·20	4·4	3·2	317	35·7
20	Marshall . . .	21·4	29·1	16·5	25·0	10·58	17·30	4·6	2·8	326	19·1
5	Blackstone . .	27·0	37·7	21·0	32·0	10·30	16·65	4·7	2·9	270	23·8
21	Aveling & Porter	30·0	42·4	23·5	36·0	11·86	15·75	4·1	3·1	243	22·3
	Averages					10·88	16·31	4·5	3·0	320	27·0
	Semi-Diesel.										
30	Munktells "15/22"	16·1	24·4	12·5	21·0	9·22	12·20	5·2	4·0	373	21·6
31	Munktells "20/30"	21·1	35·2	16·5	30·0	8·26	12·75	5·9	3·8	324	20·6
32	Hofherr-Schrantz	22·6	33·3	17·5	28·0	6·88	13·55	7·0	3·6	292	20·0
27	Lanz	23·2	31·0	18·0	26·5	10·08	11·70	4·7	4·1	267	18·0
	Averages					8·61	12·55	5·6	3·9	314	20·1

Estimated Average Lubricating Oil Consumption:

{ **Full Diesel = 0·57 Gals. (costing 2·9 Shillings) per 100 Horse Power Hours.**
{ **Semi-Diesel = 0·45 Gals. (costing 2·3 Shillings) per 100 Horse Power Hours.**

The average fuel costs per 100 horse-power-hours show a very large saving over those in both the Paraffin and Petrol groups. It is only fair to point out, however, that the average cost of lubricating oil for the same power output is rather higher than that for any other type.

In the Semi-Diesel machines there is more variation amongst the fuel consumptions and the averages are higher than for the Full Diesel machines, but there again a distinct saving in fuel costs over both Petrol and Paraffin machines is shown. The average consumption of lubricating oil is not so high as for the Full Diesels. In both Full Diesel and Semi-Diesel machines the weights per maximum Drawbar horse-power are distinctly higher than those of the other wheel type machines.

On account of the fact that the majority of the Full Diesel machines are experimental, their average price per rated drawbar horse-power is rather high. It is important to note, however, that the lower prices amongst the Diesel tractors are no higher than the higher prices among Paraffin and Petrol tractors.

The Semi-Diesel tractors—all of which are in regular production—do not show much variation in price per rated drawbar horse-power. The average figure is below the average for the

Petrol machines and does not greatly exceed the average for the Paraffin group.

10. ROAD TESTS.

Two tractors were entered for the Road Test—the Latil and the Citroën. In each case the test consisted of hauling a loaded trailer over about 30 miles of public road. The trailer was provided in each case by the entrant, who also decided on the weight to be hauled. The actual load chosen does not necessarily bear any definite relation to the maximum load which the tractor could haul.

Official
No.

22.—*Latil Tractor.*

Gross load hauled: 10·3 tons.
Total distance: 28·5 miles.
Total time of journey: 1 hour 52 minutes.
Average speed: 15·3 m.p.h.
Total fuel consumed: 23·5 lb = 3·14 gallons.
Fuel consumption: 93·5 ton-miles per gallon.

The route chosen included a gradient of 1 in 13. The higher set of gear ratios was used over the whole route. The performance of the tractor was satisfactory throughout the test.

24.—*Citroën-Kegresse Tractor.*

Gross load hauled: 4·0 tons.
Total distance: 28·5 miles.
Total time of journey: 2 hours 25 minutes.
Average speed: 11·8 m.p.h.
Total fuel consumed: 25·5 lb. = 3·42 gallons.
Fuel consumption: 33·3 ton-miles per gallon.

The route chosen included a gradient of 1 in 13. The higher set of gear ratios was used over the whole route except for about 100 yards on the above gradient. The performance of the tractor was satisfactory throughout the test.

REPORT ON TESTS OF MARKET GARDEN CULTIVATORS.

1. ENTRIES.

Three machines were entered in this class and were delivered for test.

Official
No.

33.—"*Monotrac*" Single Wheel Motor Cultivator with single cylinder 2-stroke engine, nominal rating 3½ h.p.,

Official No.

starting and running on petrol. One gear only. Country of origin: Great Britain.

34.—"*Duotrac*" Two Wheel Motor Cultivator with single cylinder 2-stroke engine, nominal rating 2¾ h.p., starting and running on petrol. One gear only. Country of origin: Great Britain.

35.—"*Rototiller* 5" Two Wheel Rotary Tiller with single cylinder 2-stroke engine, nominal rating 5 h.p., starting and running on petrol. Two gears. Country of origin: Switzerland.

All the above were entered by Geo. Monro, Ltd, Hertford Road, Waltham Cross, Hertfordshire.

2. CONDITIONS OF TEST.

The tests on these machines consisted of ordinary cultivation work, under market garden conditions, carried out during May near Evesham.

3. RESULTS OF TESTS.

The results of the tests showing the acreages covered, times taken and fuel consumed are given in the Table on p. 234.

NOTES ON THE FIELD TESTS.

Monotrac.

(*a*) In Test No. 1 the machine, fitted with 5 cultivating tines and two skids, performed good work at a depth of 3½ inches. There was a tendency for the wheel to slip and steering was difficult, especially on the rougher ground.

(*b*) A 9-tine harrow attachment was tried and was found useful for stirring up ground with an uneven and loose surface.

(*c*) The time of 3 hours 10 minutes noted in the Table as occupied by stoppages was made up as follows:—

	Hrs	Mins.
Adjustment of skids, etc., due to varying conditions		41
Stoppages for refuelling		21
Rests for operator (over 4 days) . . .	2	8
	3	10

(*d*) The Monotrac is well suited for hoeing between two rows which cannot be straddled. It produces its best work in even and well-tilled soil, such as would be met with in nurseries and some market gardens. It is a little difficult to manipulate on rough uneven soil. The engine has ample power for its work and performed satisfactorily throughout the above tests.

RESULTS OF FIELD TESTS ON MONOTRAC, DUOTRAC AND ROTOTILLER 5.

Fuel :—Shell No. 1 Petrol. Lubrication :—By adding 6 per cent. of Castrol C to the Petrol.

No. of Test	Machine	Crop	Distance Apart of Rows	Working Width of Machine	No. of Tines	Depth of Working	Travelling Speed	Period of Test	Actual Working Time in Field	Time Occupied by Various Stoppages	Total Time in the Field	Gross Area Covered (Including Crop)	Rate of Working Time for 1 acre	Total Fuel Used	Fuel Consumption
				In.		In.	M.P.H.	Days	H. M.	H. M	H. M.	Acres	Hours	Galls.	Gall./Acre
1	Monotrac	Strawberries	3 ft.	20	5	2½–3½	1·8–2·2	4	9 57	3 10	13 7	5·46	2·4	1·75	0·32
2	Duotrac	Cabbages	20 in.	2×11	4	1½–2½	2·2	7½	24 12	4 50	29 2	14·51	2·0	8	0·55
3		Strawberries	3 ft.	22	5	3	2·0	2	3 54	1 20	5 14	2·46	2·1	1·5	0·61
4	Rototiller 5	Standard Fruit Trees and Bush Fruit with Strawberries	12 ft.× 6 ft. 3 ft.	24		2¾–3½	0·70	3	5 16	3 22	8 38	0·76	11·4	3	3·95
5	,,	Strawberries	3 ft.	24		3½	1 70–2·05	7	21 4	4 1	25 5	8 48	3·0	8·75	1·03
6	,,	Tilling and Rolling				7½ after rolling	0·70	—	1 52	—	1 52	0·25	7·3	Not	Measured
7	,,	Ridging				8	0·60	—	2 0	—	2 0	0 25	8 0	,,	,,
8	,,	Deep Cultivation				7½–8	0·70	—	1 54	—	1 54	0·25	7·6	,,	,,

NOTES.

The rate of working is based on the Total Time in the Field.

Details of Typical Stoppages are given in the notes on the Tests.

The figures for working width of machine are only approximate, the effective width tilled will depend on the state of the ground and to some extent on the speed of the machine.

Duotrac.

(*a*) In Test No. 2 the crop of cabbages was well advanced. The ground was level and moist (being water-logged in one portion of the field), but had been considerably compressed. This limited the work to two rows at a time, and it was on the whole satisfactory: all the weeds were not cut out, but the hard surface was well broken, a tilth 1 to 1½ inches deep being formed, and the plants were not damaged. The engine unit is well protected; the wheels keep remarkably clean, and the machine is easy to handle.

(*b*) The time of 4 hours 50 minutes noted in the Table as occupied by stoppages was made up as follows :—

	Hrs.	Mins.
Setting tines to deal with varying conditions .		24
Stoppage due to overheating of engine . .		32
Stoppage for adjustment of carburetter jet .		14
Refuelling	1	42
Rests for operator (over 7 days) . . .	1	58
	4	50

(*c*) In Test No. 3 good work was done at a depth of 3 inches, between strawberries, in ground which had been previously hoed twice by tractor.

(*d*) The Duotrac is quite suitable for any cultivation between rows and is easy to manipulate. A ground clearance of 10 inches allows the machine to work astride of rows in some cases.

Rototiller 5.

(*a*) Test No. 4 was conducted in an orchard. The ground, which had previously been ploughed, was stony and had set very hard. Weeds were growing several inches high, and the test was confined to work in bottom gear. Three inches of good fine tilth was obtained and the majority of the weeds were uprooted and brought to the top.

(*b*) The time of 3 hours 22 minutes noted in the Table as occupied by stoppages was made up as follows :—

	Hrs.	Mins.
Adjustments due to varying conditions . .		35
Stoppage due to ignition trouble . . .	1	3
Rests for operator (over 3 days) . . .		48
Refuelling.		22
Cleaning at intervals and replacing bent tine .		34
	3	22

(*c*) Test No. 5 was carried out in top gear on a strawberry field which had previously been cultivated with a tractor and hoes, but which had remained rough and hard. It contained growing weeds, mostly grass, and some strawberry runners.

Half-cutting tines were attached in place of hooks to clear runners. Clogging was avoided and a good tilth 3½ inches deep was obtained, most of the weeds being moved.

More severe tests were carried out on strawberries on heavy soil, and 3 inches of good tilth were obtained.

(*d*) Test No. 6. Tilling and Rolling. A hollow roller is attached on the rear of the miller cover in exactly the same way as the road-travelling wheels. Working at low speed a 7½-inch depth of tilled soil (after rolling) was obtained.

(*e*) Test No. 7. Ridging. Work with the ridger was carried out satisfactorily, the ridge averaged 8 inches deep and 18 inches wide.

(*f*) Test No. 8. Deep Cultivation. Working in low gear a good tilth 7½ to 8 inches deep was obtained in one operation.

(*g*) Breakages and tine replacement. In the above tests the Rototiller worked over 55 hours and during that time 2 tines were distorted, 1 antichoke tine was broken and 1 spring broken. A complete set includes 12 springs and tines.

(*h*) Throughout the tests the engine functioned well and the machine generally substantiated the claims made for it.

After the total running-time of about 40 hours each, all three machines were in satisfactory condition on the completion of the tests and showed no signs of undue wear.

THE PUBLIC DEMONSTRATION.

The work at the public demonstration, on September 16 to 19, was confined to ploughing on wheat, bean and clover stubble. The soil varied in texture, but most of it was a heavy loam which, becoming rather sticky with the rain, provided a severe test. The depth of ploughing varied between 5 and 9 inches, being limited by the nature of the subsoil, which it was not desirable to bring to the surface.

The weather was not all that could be wished—the first day was drizzly, the third rainy and the last so wet and stormy that the demonstration was abandoned shortly after midday. The attendance, which comprised a number of visitors from overseas, was good and the work was followed throughout with keen and well-informed interest.

The following were the Committees responsible for the trials :—

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Institute of Agricultural Engineering,
St. Giles, Oxford.

REPORT ON NEW IMPLEMENTS AT THE MANCHESTER SHOW, 1930.

General Summary.

Owing probably to the more severe conditions of testing which new implements have now to undergo, there were only six entries to be considered this year. They were representative in that they grouped themselves into the following classes, viz. (i) Cultivating machinery; (ii) Dairying machinery; (iii) Harvesting machinery; and (iv) Barnyard machinery. The actual entries were:

Group (i). A cultivator with springless, solid, self-balanced compensating tines (described as the "Climax Super-Cultivator" and made by Walter A. Wood Co., Ltd., Climax Works, Horsham, Sussex, price £28), which was awarded one of the two Society's Silver Medals allotted this year.

Group (ii). A milking machine with electro-magnetically operated valves on the buckets (described as a "Magnetic Milker" by the entrants, Alfa-Laval Co., Ltd., 34 Grosvenor Road, London, S.W.1. Price £20 per unit, plus cost of installation), which was awarded the other of the two Society's Silver Medals allotted this year.

Group (iii) contained three entries. One was a 12 ft.-cut all-steel construction, ball-bearing, combined harvester and thresher with beater drum, as is required where undamaged straw is of value (described as a "Harvester-Thresher" by the makers, Clayton & Shuttleworth, Ltd., Lincoln. Price £480). This entry was deferred and given leave to re-enter next year in order to ascertain suitability for English conditions.

The two other entries in this group were expanding horse-drawn hay rakes. They came under the "General Class" which embraces machines which are improvements or modifications on existing machines.

One of these rakes, described as the "Albion expanding horse rake," was entered by Harrison, McGregor & Co., Ltd., Albion Works, Leigh, Lancashire. Price £18 10*s*. It has twenty-six tines and in width is 7 ft. 0 in. closed and 9 ft. 11 in. open. The expanding ends fold up vertically when the rake is closed. A built-in jack is provided to facilitate closing.

The other rake was described as the "Compacta" and was made by Bamfords, Ltd., Uttoxeter. Price £19. It has twenty-eight tines and the width is 7 ft. closed and 10 ft. open. The end tines are raised slightly and in telescoping the axle ends they slide inwards over the other tines. A built-in jack is provided to facilitate this operation.

In Group (iv) the entry was a horizontal artificial stone grinding mill described by the entrants (International Harvester Co., of Great Britain, Ltd., 259 City Road, London, E.C.1) as a "Gyro Mill." Price £22. Its new and most important feature is that it has an automatic feed control by which the mill itself governs and controls the inflow of the grain.

TESTS.

As all the entries had been tested by the Institute of Agricultural Engineering prior to the Show and since the Judges also had had an opportunity of inspecting all except one, while they were under test, both their strong and weak points were brought to the fore. This prior testing period is a most satisfactory arrangement, as well as being fair to the manufacturer and to the user; it further greatly facilitates the work of the Judges, who nowadays are not dependent entirely upon a showyard inspection with its limitations due to crowding, lack of testing possibilities and difficulty of visualising what the implement would do under everyday working conditions. Though the fee now fixed for each entry may seem high, it is noteworthy that in every case the actual cost of the tests, carried out as they are in such a thorough manner, amounts to a very considerably larger sum—hence the entrant obtains exceedingly good value. The methods adopted for testing were modern and up-to-date and hence reliable—though in the opinion of the writer it would be well to also test power-driven machines in future by means of electric motor drives, so as to facilitate even more accurate measurement of power consumption, friction losses, etc.

GENERAL DETAILS.

It will be of interest to consider the various entries in more detail than that given in the "General Summary" with which this report commenced. Hence the following particulars have been extracted from notes made while inspecting the tests and upon viewing the entries in the Showyard. While space does not permit of their being very complete, they will probably serve as a useful guide to a prospective purchaser. Every implement has its especially good points and in inspecting machines intended for similar work, one is very inclined to wish that one could take the good points out of each and assemble them into one ideal machine—though a similar revision would have to be made at say yearly intervals to keep pace with the progress of invention and improved design. From the point of view of low cost to the user, there are too many varieties of each machine on the market, and though competition has its useful purpose, a little more co-operation would undoubtedly benefit the user. Now to deal with each entry separately.

Group (i). Cultivating Machinery—"The Climax" Cultivator. (Awarded Silver Medal.)

This cultivator (*see* Fig. 1) is well worthy of very careful attention as it incorporates several important new and practical features that make the implement stand out amongst other designs. Hitherto cultivator tines have been either rigid or spring-relieved or spring-loaded (*see* Fig. 2). In the case now under consideration the tines are loosely and separately mounted on two tubular bars—four on the forward and five on the rear bar. By means of levers and pulleys attached to the bar mounting portion of each tine, all the tines are connected together by one continuous 20-cwt. steel wire rope, or in the stronger types, a 25-cwt. or 30-cwt. chain (*see* Figs. 3 and 4). The tine levers on the forward bar are placed above its level and inclined to the rear, while the tine-levers on the rear bar are fixed below its level and inclined forwards; in this way a compensated or reverse loading is provided. The practical result of this arrangement is that if any one tine strikes an obstacle, instead of breaking or bending, it automatically releases itself, by drawing on the rope (or chain) whereby it is attached to the other tines. Similarly it adapts itself to all variations met with in resistance of the soil and is therefore obviously very flexible in action.

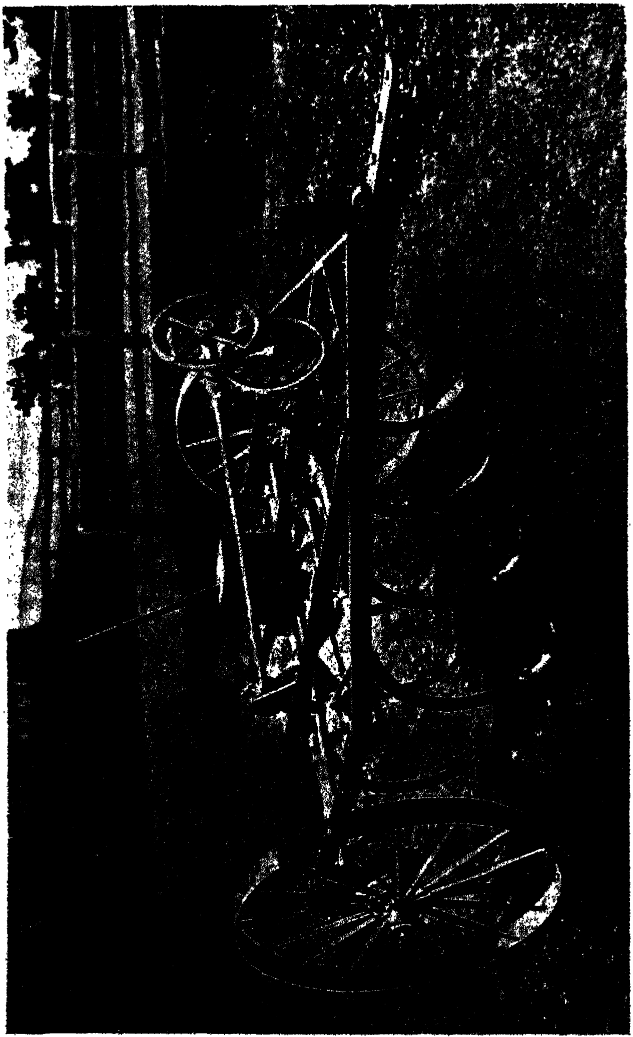


FIG. 1.—The Climax Springless Compensating Tine Cultivator.

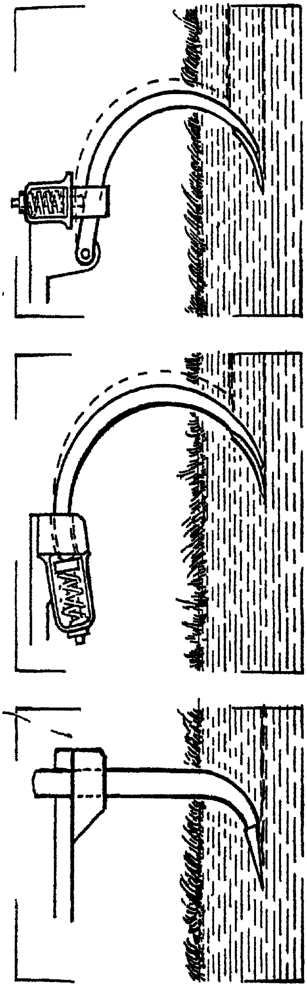


FIG. 2.—Solid and Spring-Relieved Tines.

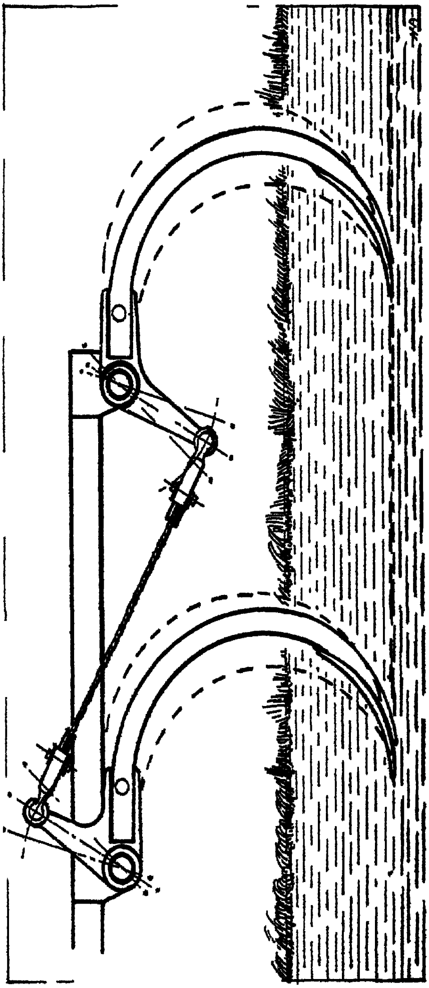


FIG. 3.—The Climax Compensating Cultivator Tines.

Under test, the tines worked very evenly and maintained a uniform depth, adapting themselves automatically according to the varying nature of the soil through which they were drawn. As the resistance encountered by each tine varied, a digging action was continuously taking place. In fact, they were almost human in the way they operated, as they responded so quickly and sensitively to every change in the conditions of the soil in which they were working. This action obviously better pulverises and aerates the soil than would be the case with a cultivator having rigid or spring-mounted tines. While many cultivators will do good work at small depths, it is doubtful whether any other type would do such good work as this one at its maximum depth of operation. The machine was tested on a sandy loam field of rye grass and also on a medium loam fallow that was fairly sticky after rain. Various depths were tried, in all of which the tines worked evenly and kept uniform depth. Evidently for good work this cultivator must not be hauled too fast, otherwise it leaves some clods which are too large. The makers claim that it cultivates as effectively on light, medium

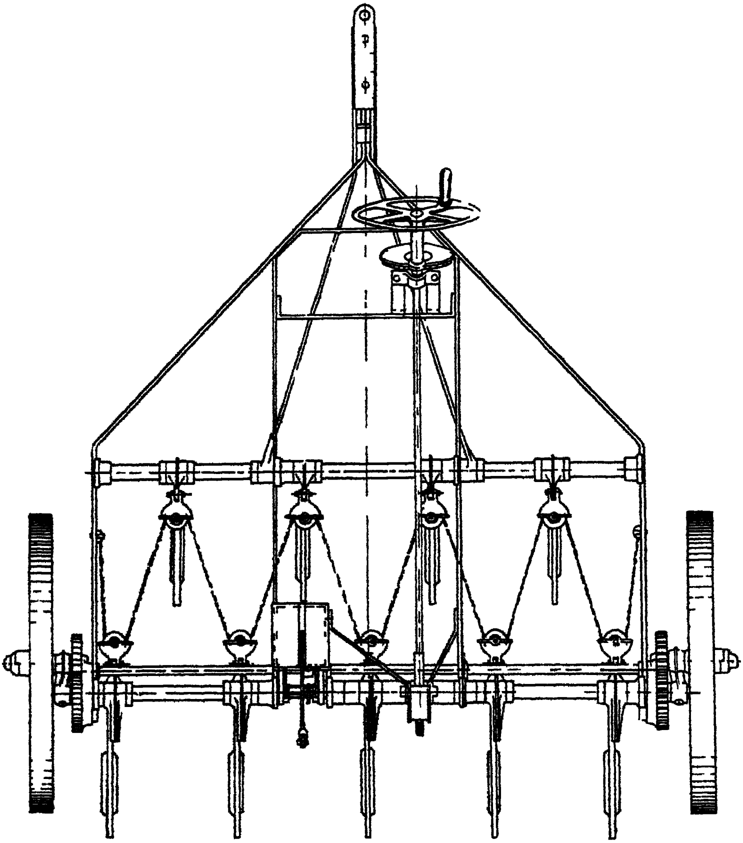


FIG 4.—Plan or Bird's-eye View of the Climax Compensating Cultivator Tines.

or heavy soils, and that it will hold continuously at the pre-set depth, with no tendency to come to the surface. It is certainly a great advantage to have such a flexible tool which does not skip the hard portions of its work—the very bits that want breaking up—with an entire absence of springs and spring attachments. The tines are fitted with replaceable points.

The power lift is very effective and acts smoothly. It was tested when the tines were set at different depths and when the machine was going straight and when turning at various speeds. The tines can be brought clear of the ground in about a yard of forward travel, which means the possibility of working with narrow headlands and proper cultivation over a bigger area. The lift consists of an epicyclic gear and is brought into operation by means of an expanding brake.

The control of the depth is definite, simple and positive, being effected by means of a worm and sector. This is easily operated from the seat of the driver through a crenulated wheel which meshes with a crenated sleeve, having only one tooth and mounted on the hand-wheel shaft. This gear only turns the discs slightly once per revolution, which corresponds to the depth that the tines are permitted to enter the ground. If the tractor should stall on a bad patch owing to lack of wheel grip, the load can quickly be eased and hence time is saved. An indicator clearly shows the depth which is being cultivated at any moment.

The main axles are provided with roller-bearings. All bearings are well protected from dust and dirt and are grease-gun lubricated through non-rusting cadmium plated nipples. A good feature is that the interior of each bearing is machined out to provide a chamber for storage of ample grease

An adjustment is provided for the tractor hitch. This is necessary so that the frame of the machine may be kept parallel to the ground, in which position it, of course, operates best.

No torsional stresses are imposed upon the cross-bars carrying the tines. Usually cultivator cross-bars have to be very strongly constructed so as to withstand the torsional strains and frequently the old type rigid tine brackets are broken.

It was a pleasure to investigate this cultivator, for sound principles of engineering design were employed throughout, rule-of-thumb methods being entirely avoided.

Group (ii). Dairy Machinery—The Alfa-Laval Milking Machine with Electric Control. (Awarded a Silver Medal.)

Nowadays there is not a great deal of difference in the operation of the best types of milking machines, hence improvement must rather be looked for in the details and particulars in those details which will ensure regularity of performance under all conditions coupled with ease of maintenance. It is in matters of mechanical performance and maintenance that the Alfa-Laval entry stands out pre-eminently. The principle of a master or centralised control of the milking pulsations at the vacuum pump is adopted instead of individual control at the milking pail. If obtainable without too much difficulty a centralised control is more reliable and less likely to get out of order. In the case of the Alfa-Laval milker (Fig. 5), this end is attained by electric instead of pneumatic control. The former is of course instantaneous in action, hence all the cows, irrespective of their position in the byre, get equal treatment. Further, the milking action is certain to be properly timed and quite regular. In the ideal milking machine cycle there should be full suction applied to the teat for one half of the milking period and there should be complete relief during the other half. The change over should be practically instantaneous (*see* Fig. 6) and not a more or less gradual change over as occurred in earlier types of milking machines (*see* Fig. 7). In the case of the new Alfa-Laval machine, the actual indicator diagram (Fig. 6) very closely approximates the theoretical conditions. The period of suction is applied to the teat filled with milk only sufficiently long to empty it and the period of release is timed so that the teat will be filled with milk again, when next the suction is applied. Experience has shown that this can best be accomplished with 38 cycles (*i.e.* 38 suctions and 38 releases) per minute, when a vacuum of 13 in. is employed. With electric control the efficiency of the system is greater and consequently the size of the vacuum pump can be reduced by 50 per cent., *i.e.* only 1½ h.p. is now required in place of the former 3 h.p. to drive the vacuum pump. Again, as a result of the alterations made by changing over to electric operation, the total cost of the equipment is reduced by about 10 per cent.

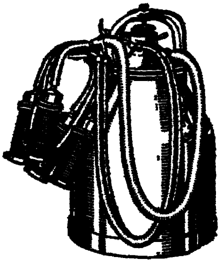


FIG 5

In general detail, apart from the new electric control being substituted for pneumatic control, the milking machines retain most of the features associated with the previous types of the same make, and hence they will not be described here. The buckets, however, are now constructed of tin-coated, spun, one-piece phosphor-bronze. This makes an exceptionally strong and lasting construction. The vacuum pump employed is of the rotary type with splash lubrication, hence a steadier vacuum is maintained in the pipe-line, as compared with that produced by reciprocating vacuum pumps. This pump can of course be driven by either an electric motor or by an oil engine.

There is still a little prejudice in some quarters against the use of electricity, hence a careful examination was made of the electric system. To begin with, it is perfectly safe, as the pressure is only six to eight volts—the same as that employed on most motor-cars. In fact, in case of a breakdown, an ordinary car battery can be employed to operate the equipment. The electricity is produced by a small electric generator, similar to that used on motor-cars, and attached to the vacuum pump which drives it. This generator only requires lubricating once in three to five years. A gear-driven make-and-break (again similar to motor-car practice) is attached to the side of the pump remote from the pulley and one lead of the electric generator is attached to this. The electrical impulses, transmitted by means of the make-and-break, are carried to the electro-magnetic valves on the buckets by means of a single insulated cable mounted on the steel vacuum pipes, which run over the cow stalls. They are connected to contacts which form a part of special vacuum taps or stall cocks. No skill is required by the cowman in electrically

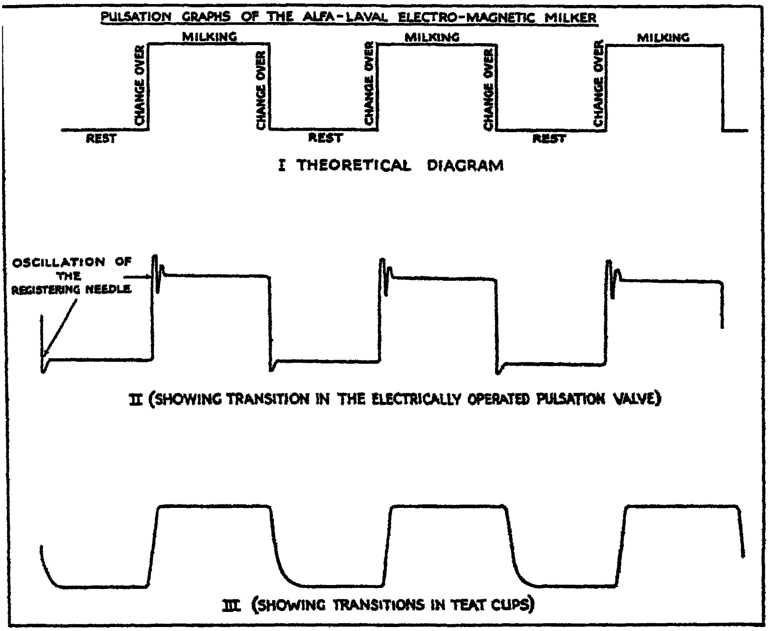

PULSATION GRAPHS OF THE ALFA-LAVAL ELECTRO-MAGNETIC MILKER
MILKING
MILKING
MILKING
CHANGE OVER
CHANGE OVER
CHANGE OVER
CHANGE OVER
CHANGE OVER
REST
REST
REST
I THEORETICAL DIAGRAM
OSCILLATION OF THE REGISTERING NEEDLE
II (SHOWING TRANSITION IN THE ELECTRICALLY OPERATED PULSATION VALVE)
III (SHOWING TRANSITIONS IN TEAT CUPS)

FIG. 6.—Theoretical or ideal instantaneous Change from Pressure to Suction in a Milking Machine.
Change from Pressure to Suction in Electrically Controlled Alfa-Laval Milking Machine. (Note Closeness to Theoretical diagram.)

connecting the buckets, for all he has to do is to put in place over the tap nozzle the india-rubber tube as is usually employed for connecting the taps to the buckets. However, this tube is special in that it has metal collared ends; these ends are connected to a flexible spiral electric conducting wire which is embedded inside the wall of the tube and hence cannot get entangled with anything or get out of order. As the wire is formed into a flexible spiral, any bending of the india-rubber tube which contains it will not break it.

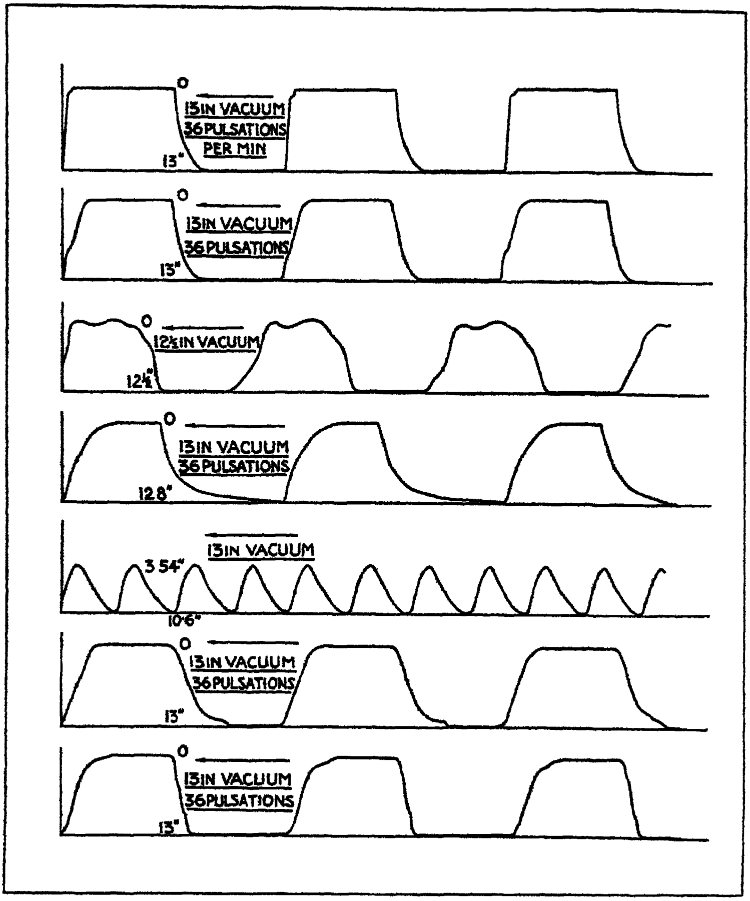


FIG. 7.—Typical Indicator Diagrams of Gradual Change from Pressure to Suction in various types of Milking Machines.

The only lubrication required for the whole of the plant, is that for the vacuum pump, which has a single visible level oil cup. This only requires filling at long intervals.

The electric generator has sufficient capacity to supply also the current for two 15 watt motor-car type lamps, for those cow-houses which are not already electrically lighted.

The writer had the opportunity of inspecting one of these electrically controlled milker installations in operation in a 150 cow-house and of comparing it with the pneumatic control type in two similar size cow-houses. In the electrically controlled installation, it was very remarkable how all the buckets operated in perfect unison with military-like precision, which meant the best treatment for every cow. With the pneumatic control on the other hand, although all the units were pulsating at the same rate per minute, the pulsators were not operating at exactly the same instant, on account of the slight time lag occasioned by the cushioning effect of the long column of air employed in the control.

Group (iii). Harvesting Machinery.

(a) Combined Harvester and Thresher. (This entry was deferred and given leave to re-enter next year in order to ascertain suitability for English conditions.)

This is an English-built machine with a 12 ft. cut, that harvests, threshes, cleans and bags grain in one operation (Fig. 8). It has to be hauled by a tractor, but it carries its own petrol engine for driving the cutting and threshing mechanism. It is provided with a beater drum, whereas only one other make of combine has been so constructed, the usual practice being to employ peg drums. The cleaning mechanism is more elaborate and effective than in the case of foreign combines.

Machines of this character were used for the first time in this country in 1928: this particular make was built and exported in 1928, but it was not used in this country until 1929, when it was tested by the Oxford Institute of Agricultural Engineering. It was then employed for harvesting 33 acres of barley (at 1·3 acres per hour) and 16¾ acres of wheat (at 2·15 acres per hour). After some preliminary adjustments, it did excellent work when hauled at a comparatively low speed, since any English crop is heavier than a foreign one and the machine was apparently designed for the latter. The loss of barley averaged 3·1 bushels per acre. The yield was 26·7 bushels per acre. The loss of wheat was 0·57 bushels per acre and the yield 23·8 bushels per acre.

Naturally it was impossible to test the actual machine entered this year—for the lack of a harvest to try it upon. However, the makers state that they have made several improvements, which make it even more suitable for English conditions. They have reduced the total weight to 4 tons 12 cwt.

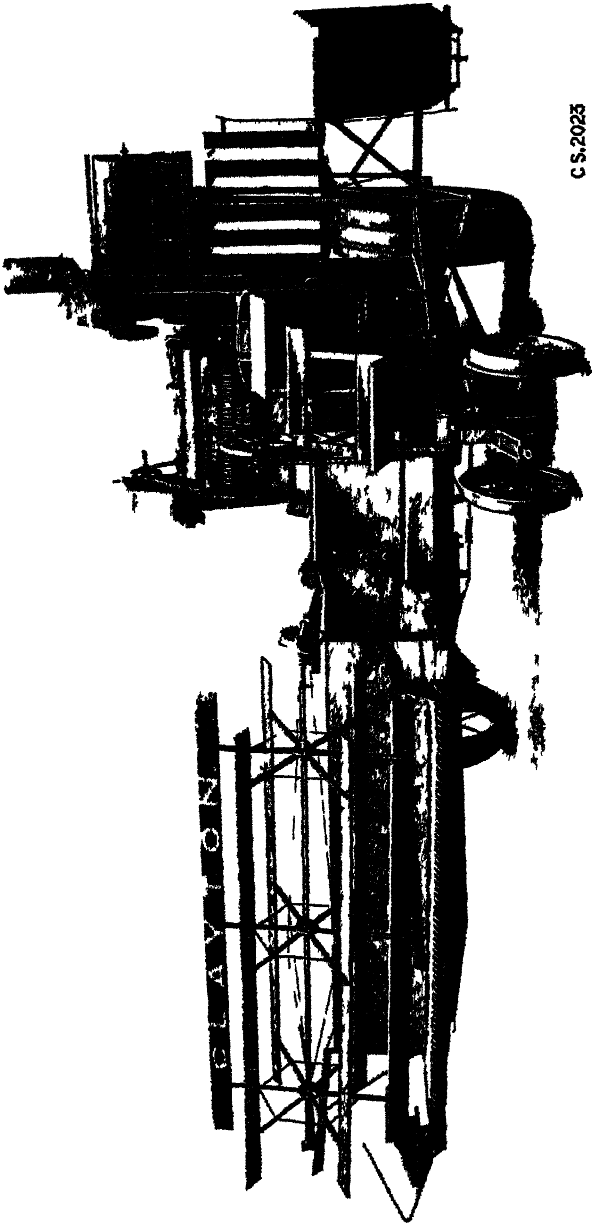


Fig 8 —Clayton and Shuttleworth Harvester Thresher

The main header platform has been re-designed to improve the clearance between the ground and the platform bottom. The length of the shaker boxes has been increased by 2 ft. An improved raising and lowering gear has been incorporated and generally accessibility has been improved. These improvements should do much to overcome the defects observed on test under English conditions. The makers state that they have made or have under construction nearly 200 of these machines which indicates that the design is considered very satisfactory for foreign application.

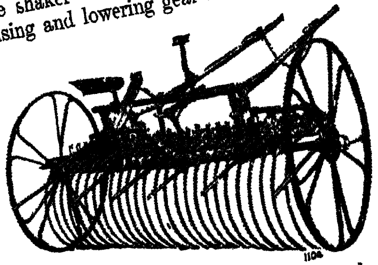


Fig 9 —Showing Albion Rake Expanded.

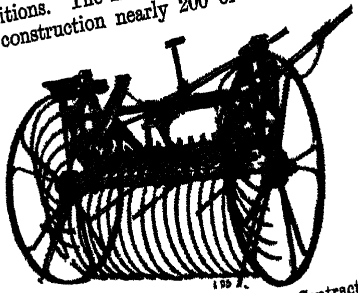


Fig. 10 —Showing Albion Rake Contracted.

The construction is all-metal. The threshing drum is 33 in. wide by 22 in. diameter, with eight beaters, and follows the well-known practice of this firm.

Ball bearings and grease-gun lubricators are fitted throughout.

(*b*) *The Albion Expanding Horse Rake.*

This 26-tooth rake can be contracted from 9 ft. 11 in. to 7 ft. for transport (Figs. 9 and 10). If the rake axle is clean and well lubricated it can easily be closed up in a couple of minutes. The expanding ends, which are hinged on to the main frame, fold up vertically in a very neat manner when the rake is closed. To facilitate closing, a lifting jack is hinged on to the main frame. This jack is operated by pushing the rake backwards on to it; this operation takes slightly longer than a lever jack. On the whole the rake is a little on the heavy side, but the tipping arrangement is well balanced and the locking arrangement is very effective. The taper tines are hinged and supported in guide brackets. They are made of high-grade carbon steel to prevent bending and can be removed separately without disturbing the other teeth. As the hinges are made of malleable iron, they can be pinched together as wear takes place. The 4 ft. diameter wheels have grooved rims to protect the riveted ends of the spokes, and the bosses are renewable. Hence the wheels are of a good type of construction.

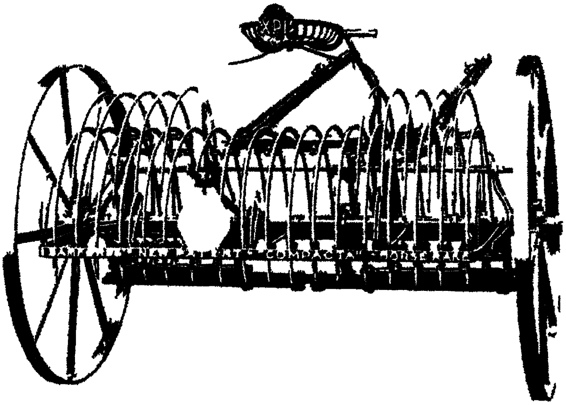
Generally there are no loose parts and a proper place is provided for a spanner. Tubular, foldable shafts are provided.

(*c*) *The Bamford Compacta Horse Rake.*

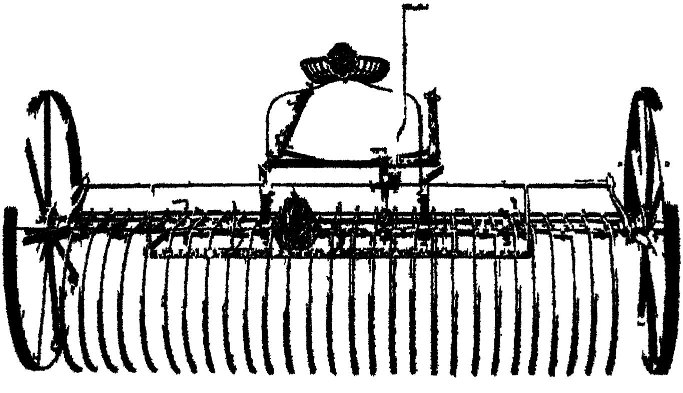
This 28-tooth rake can be expanded from 7 ft. to 10 ft. (Fig. 11). It consists of a main frame carrying the tines, the outer portions on each end of this frame being capable of expanding longitudinally outwards. In closing, the extension tines are swung back slightly out of line. To facilitate closing and opening an excellent built-in, hand-lifting jack is provided. In several instances the use of a spanner is obviated by extending the bolts and bending over the long end so as to serve as a turning handle. The design of the tines permits of the use of pressed steel rake clips, which strengthens the tines. When the main axle and the frame bars are clean and lubricated, the rake can be closed or opened out, very quickly. There are two loose tubular parts to be removed for closing, however they fit on to spring clips in a position where they are needed to prevent the extension tines from accidentally rising, hence they are not likely to be lost.

Group (*iv*). *The Gyro Grinding Mill.*

This is a "stone" mill for feed grinding and milling (*see* Fig. 12), with horizontally mounted artificial stones of 15¾ in. in diameter. The counter shaft runs at 725 r.p.m. and the stones at 625 r.p.m. The power required varies from 3 to 8 h.p. according to the output required. Its all-important feature is the automatic feed control, by which the mill itself governs and controls the inflow of grain. The power consumption of the mill can be varied by adjusting the tension of the holding spring for the upper stationary stone, which is accomplished by altering the position of an arm, held by a quadrant provided with a series of holes.



RAKE CLOSED FOR TRANSPORT



RAKE IN OPEN POSITION READY FOR WORK

FIG. 11.—The Bamford Horse Rake.

This does not seriously alter the fineness of grinding, but only the output. When the mill becomes overloaded or a foreign body enters, the increased friction causes the upper stone to turn a few degrees on its axis against the pressure of a spiral spring. As the stone turns slightly the oscillation of the shaker feed pan is stopped and the feed is automatically cut off. Thus choking and overloading is prevented, which ensures a maximum capacity and a maximum efficiency at all times.

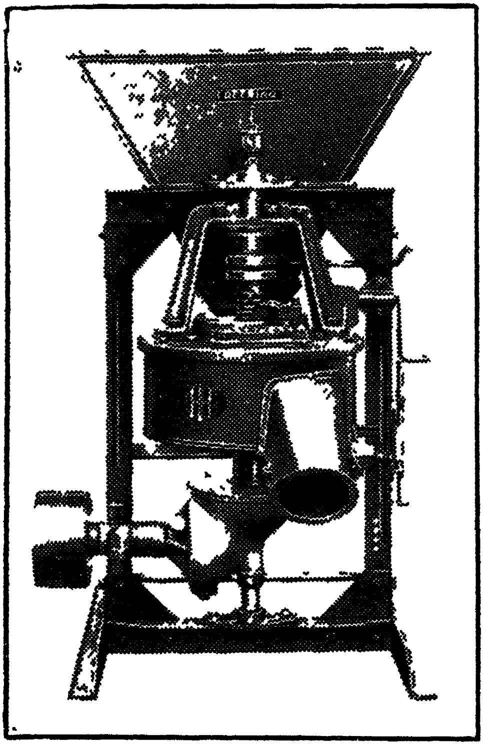


FIG. 12.—The Gyro Stone Mill with Automatic Feed.

Wheel or circular nuts, with tommy-bar holes, are provided for adjusting the distances between the upper and lower stones, to suit the fineness of grinding required. The feed from the hopper to the shaker feed pan is controlled by raising or lowering a shutter by means of a hand-crank. The shaker pan is operated by an eccentric on the vertical stone shaft.

The output was well up to the average for a stone mill and was not over-heated and hence its digestibility was not impaired. With an air temperature of 59° Fahr. (15° C.) the output was 86° Fahr. (30° C.). It successfully accomplishes the difficult task of crushing a mixture of oats, maize and barley, at one and the same time. The maker states that it will grind about 50 tons of grain before the stones require re-dressing and that the stones will deal with about 300 tons before they require to be replaced. A very ingeniously designed dressing hammer, with cutters that can be unbolted for re-sharpening, is provided—and also a receptacle to hold it on the mill frame, so that it might not get mislaid.

A very effective sack grip is also provided. Lubrication is carried out by means of a drip feed lubricator. Oil passes through a hole drilled down the centre of the fixed spindle, thence to the lower stone bushing via the ball-bearing thrust to the gear box.

As the mill can be turned off its work by a lever, a loose pulley is not necessary.

The frame construction of this mill consists of angle iron members, which is of course preferable to cast iron. The hopper is rigid enough to support a sack of grain.

Stone mills have considerable advantages over metal plate mills in preparing feed for animals, as they grind or rub the grain, rather than crack it, which results in better nourishment. The disintegrator really compares more favourably with the stone mill than with the plate mill. The Gyro mill is certainly a great advance on the old-fashioned stone mill, in that its construction is along modern lines which results in that efficiency which enables it to compare in performance with the steel plate mill. A little care and intelligence is required both in erecting and in adjusting this mill.

The output at 6 h.p. was, for oats, 7 bushels per hour, medium; or 5¾ bushels, fine. For maize, 5·7 bushels per hour, fine; or 3·5 bushels, very fine. For wheat, 8·5 bushels per hour, fine.

GENERAL REMARKS.

All the entries this year were of a high standard as obviously those makers who did not care for their implements to undergo searching and careful tests prior to the inspection at the Show did not make any entries. In other words, the very high standard of practical performance now required to merit one of the Society's Silver Medals means that there are not many new machines that would reach that standard. Hence the value of the Society's Silver Medal has become higher than ever. In accordance with Regulation No. 77, no machine entered for the Society's Tractor Trials was eligible for entry.

A noteworthy feature in all the entries this year was the attention given in the design to the easy lubrication of working parts, the use of grease guns and the employment of ball and roller bearings. Arising out of this, it would seem advisable that implement manufacturers should, in conjunction with the British Engineering Standards Association, agree upon standard nipples for grease gun lubrication, for the farmer cannot be expected to keep a variety of grease guns available. The crying need in the design of any machine intended for use on the farm, is that it must anticipate the neglect and carelessness of the farm labourer. Even some of this year's entries could be considerably improved so as to better resist the incursions of rust and dirt

The Judges wish to record their appreciation of the assistance given to them by the Society's Consulting Engineer and in particular for the carefully analysed and detailed report that had been prepared of the preliminary examination and tests. Without this assistance and without actual visits to see the entries while they were under test, the Judges feel that they could not have so easily acquired the necessary information that is required if each entry is to be fully and fairly judged from the practical point of view of the farmer.

R. BORLASE MATTHEWS

Greater Felcourt,
East Grinstead.

REPORT OF THE STEWARD OF DAIRYING, MANCHESTER SHOW, 1930.

MILK YIELD TRIALS

(CATTLE, CLASSES 210 TO 220)

IN the Manchester Showyard these trials were conducted on exactly the same lines as in recent years, exhibitors having the option of milking their cows twice or three times during the 24 hours' test.

There were 110 entries in all, but for various reasons only 75 cows and heifers actually competed, the numbers being much below those at the Reading and Newport Shows, but similar to the 77 which competed at Manchester in 1916.

As a result of experiences at this Show, and in order to avoid any possible complaints in the future, new weighing dials will be provided in 1931 registering pounds only, and at each milking a signed ticket of the cow's yield will be given to every herdsman

Once again a Society interested in milk production provided the funds for Champion Prizes, the results being as follows:—

Class A, for Dairy Shorthorn, Lincoln Red Shorthorn, South Devon, Red Poll, Blue Albion and British Friesian.—Champion Prize, £30, to Mr. E. G. Barton's British Friesian Cow "Chaddesley Hedge Rose 2nd," which put up a very fine record in winning for the third consecutive year. This cow having calved as recently as June 22, was not in such good form as in the previous year, and though a week later she equalled her former yields at the Great Yorkshire Show, on this occasion her yield was only 85 lb. 8 oz.; her butter-fat percentage was 4·63 per cent., a figure much in excess of 1929 (nearly 0·5 per cent.), but the milk was not normal; her live weight was 13 cwt. 1 qr. 7 lb., *i.e.* 35 lb. heavier than a year ago, but only 5 lb. heavier than at Nottingham in 1928. Reserve, £5, went to Mr. Frank Sainsbury's Lincoln Red Cow "Scothern Charm," with a yield of 80 lb., of 3·36 per cent. butter-fat; being closely followed by the Red Poll "Basildon Rosemary 2nd."

Class B, for Ayrshires, Jerseys or Guernseys.—Champion Prize, £20, to Mr. David Wallace's Ayrshire Cow "Auchenbrain Big Kate 13th." This cow too won a group Championship for the third time, with a yield of 71 lb. 12 oz. of rich milk of 4·48 per cent. butter-fat, for a live weight of 11½ cwt. Reserve, £5, went to Messrs. Jones and Watson for "Auchenbrain Miss Craig 34th," bred by Mr. David Wallace, sired, like the champion cow, by South Craig Footprint. This cow gave 75¼ lb. of milk, of 3·23 per cent. butter-fat.

Class C for Kerrys and Dexters.—Champion Prize, £10, to Miss Dora Box's Dexter cow "Wightwick Dolly 2nd," weighing 6 cwt. 2 qr. 14 lb., which gave 25 lb. 12 oz. of milk, containing 3·75 per cent. of butter-fat. As no other cow in this section came up to the standard, there was no Reserve Award.

The Awards and all other details of the trials are shown in Table I, whilst in Table II the usual comparison is drawn between the performances of the various breeds.

Once again readers are reminded that of course showyard conditions are abnormal, the cows being differently housed, possibly differently fed and frequently disturbed, but as between breeds comparisons may be drawn as they are all similarly treated in the Showground. Points perhaps worthy of comment on this occasion are the fine performance of the Lincoln Reds, the high average live weight of the Red Polls, good figures in the total points by the Ayrshires, and the fact that per live weight cwt. the Jerseys have the highest number of points, and lastly that though the fat percentages are not high in no case do they fall below the Government standard.

TABLE I.—MILK YIELD CLASSES AT 1930 SHOW.

No in Catalogue	Exhibitor	Name of Cow	Live weight	Date of birth	Date of last calf	No of days in milk	Date of last Service	Milk Yield: Morning	Milk Yield: Noon	Milk Yield: Evening	Milk Yield: Total	Av'ge % fat per cent	Points: Milk	Points: Av'ge fat per cent × 4	Points: Lactation	Points: Total	Awards and Remarks
			lb		1930		1930	lb oz	lb oz	lb oz	lb oz						
Class 210		**Dairy Shorthorns Thrice Milked**															
1010	Alfred Luckin	Orfold Fancy 13th	1568	Dec 5 1923	June 15	25	—	22 8	21 0	22 4	65 12	3 36	65 75	13 44	Nil	79 19	First Prize
1018	William Pearson	Sylvan Maid 3rd	1239	Aug 22 1922	June 8	32	—	23 0	20 8	21 8	65 0	2 96	65 00	11 84	Nil	76 84	Fat below Standard
1020	W Curtis & Son	Rainham Barrington	1232	Nov 25 1924	May 13	58	—	19 12	14 0	15 12	49 8	3 50	49 50	14 00	1 8	65 30	Highly Commended
1028	R Silcock & Sons Ltd	Thrimby Peggy 3rd	1393	Mar 30, 1925	June 15	25		24 8	18 8	24 0	67 0	2 58	67 00	10 32	Nil	77 32	Fat below Standard
1060	Eustace Abel Smith	Longhills Polly 3rd	1179	Aug 9, 1926	April 22	79		15 0	15 0	13 8	43 8	2 65	43 50	10 60	3 9	58 00	Fat below Standard
1067	Duke of Westminster	Eaton Rosalind 4th	1197	June 10 1926	June 3	37		19 0	18 8	17 4	54 12	4 33	54 75	17 32	Nil	72 07	Reserve
		Dairy Shorthorns, Twice Milked															
1001	W R C Ashby	Southerby Maid	1411	Mar 24 1923	May 20	51		32 8	—	26 4	58 12	3 40	58 75	13 60	1 10	73 45	Fifth Prize
1005	Sir Wm Hicking Bart	Brackenhurst Jean	1568	June 21 1923	May 25	46		19 8	—	14 12	34 4	2 82	34 25	11 28	0 60	46 13	Fat below Standard
1016	J Pierpont Morgan	Longhills Belle 2nd	1575	Jan 14 1923	Mar 20	112		26 8	—	22 12	49 4	2 92	49 25	11 68	5 00	65 93	Fat below Standard
1017	H Percy Mortimer	Lambrigg Belle 2nd	1421	Sept 6 1918	Jun 16	24		27 4	—	24 12	52 0	2 72	52 00	10 88	Nil	62 88	Fat below Standard
1013	Lord Henry C Bentinck	Sybil Grey	1163	April 10, 1924	June 7	3	—	36 0	—	26 12	62 12	3 30	62 75	13 20	Nil	75 95	Second Prize
1022	Edmond Hall	Beaumont Mary 3rd	1386	June 21 1924	June 23	17	—	30 8	—	27 4	57 12	4 32	57 75	17 28	Nil	75 03	Third Prize
1033	Sir Wm Hicking Bart	Martley Harrington	1393	Feb 21 1925	June 11	29	—	24 8	—	20 0	44 8	3 25	44 50	13 00	Nil	57 50	—
1030	Mrs G Finch Dawson	Burwain Flower Princess	1183	June 1 1925	May 17	54		28 12	—	24 8	53 4	2 35	53 25	9 40	1 40	64 05	Fat below Standard
1039	Tuton & Deans	Camerton Bell 4th	1263	Dec 15 1925	May 31	41	—	29 12	—	26 12	56 8	3 30	56 50	13 20	Nil	69 70	Highly Commended
1040	Mark Walker	Hothersall Rosamond	1250	Nov 4 1925	June 9	31	—	25 12	—	22 0	47 12	2 75	47 75	11 00	Nil	58 75	Fat below Standard
1048	Sir Wm Hicking, Bart	Debden Rose	1274	June 27 1926	April 12	89	—	21 4	—	18 8	39 12	2 70	39 75	10 80	4 90	55 45	Fat below Standard
1065	Duke of Westminster	Eaton Dairymaid 3rd	1218	May 26 1926	May 25	46		26 8	—	22 8	49 0	3 22	49 00	12 88	0 60	62 48	Highly Commended
1066	Duke of Westminster	Eaton Princess Gift 5th	1148	June 5, 1926	June 9	31	—	31 4	—	26 4	57 8	4 15	57 50	16 60	Nil	74 10	Fourth Prize
Class 211		**Lincolnshire Red Shorthorns Thrice Milked**															
1113	John Evens & Son	Burton Darkie 7th	1589	Sept 14 1923	May 10	61	—	23 12	18 4	21 12	63 12	3 30	63 75	13 20	2 1	79 05	Highly Commended
1124	John Evens & Son	Burton Fillpail 8th	1510	June 18 1925	May 30	41	—	25 8	20 8	22 4	68 4	3 96	68 25	15 84	0 1	84 19	Third Prize
1125	John Evens & Son	Burton Irene 2nd	1680	April 10 1921	May 5	66	—	25 0	18 12	21 8	65 4	3 06	65 25	12 24	2 6	80 09	Reserve
1126	John Evens & Son	Burton Jewess 5th	1596	Oct 17, 1923	June 2	38	—	28 12	22 8	24 4	75 8	3 20	75 50	12 80	Nil	88 30	Second Prize
1127	Frank Sainsbury	Scothern Charm	1589	Aug 14, 1922	June 19	21	—	23 4	23 12	33 0	80 0	[illegible]	80 00	13 41	Nil	93 41	First Prize and Reserve Champion (A)

Class 213		**Red Polls Thrice Milked.**															
1181	Sir Merrik R Burrell, Bt	Knepp Prudence 4th . .	1652	Sept 6 1921	Mar 31	101	—	21 4	18 4	18 8	58 0	3 83	58 00	15 32	5 0	78 33	Third Prize
1185	Mrs. M. M FitzGerald	Maiden Mistake . .	1260	Sept 5, 1924	April 19	82	—	18 0	16 0	20 8	54 8	2 90	54 50	11 64	4 2	70 34	Fat below Standard
1186	Viscount Folkestone .	Longford Bloom . .	1491	Jan 23, 1924	Jan 2	189	June 23	15 12	12 0	15 0	42 12	3 26	42 75	14 04	Nil	56 79	—
1187	Mrs R M. Foot . .	Basildon Rosemary 2nd	1183	Feb 18, 1924	June 6	34	—	29 8	24 4	25 12	79 8	3 36	79 50	13 44	Nil	92 94	First Prize
1193	Capt Alan Richardson	Seven Springs Quinine .	1421	Oct 13, 1923	Mar 15	117	June 16	23 0	16 8	20 8	60 0	3 60	60 00	14 40	7 7	82 10	Second Prize
1198	Mrs M. M. FitzGerald	Marsden Mimulus . .	1540	July 4, 1926	Feb 2	158	May 2	15 12	12 4	15 0	43 0	4 21	43 00	16 84	11 8	71 64	Fourth Prize
1199	John George Gray .	Polstead Prolific	1344	Nov 30, 1925	May 14	57	—	16 8	13 0	14 8	44 0	3 46	44 00	13 84	1 7	59 54	Reserve
		Red Polls. Twice Milked															
1192	Capt. H E de Trafford, Bart.	Kirton Patsy	1484	June 23, 1923	April 2	99	June 24	31 0	—	24 12	55 12	2 47	55 75	9 88	5 90	71 53	Fat below Standard
Class 214		**Blue Albions Thrice Milked**															
1263	Arnold Gillett . . .	Brampton Jewel . .	1183	Unknown	June 8	32	—	24 0	21 12	22 8	68 4	3 18	68 25	12 72	Nil	80 97	First Prize
1265	C H. Webster . . .	Ivonbrook Fashion . .	1373	June 8, 1925	June 15	25	—	21 0	19 4	19 8	59 12	3 38	59 75	13 52	Nil	73 27	Second Prize
		Blue Albions. Twice Milked															
1259	R H. A Holbech .	Seagry Melody . . .	1337	Unknown	May 23	48	—	29 0	—	31 8	60 8	2 70	60 50	10 80	0 80	72 10	Fat below Standard
1261	T H Swire & Sons	Bank Enchantress .	1372	Aug 9, 1925	May 20	51	—	14 8	—	13 8	28 0	3 07	28 00	12 28	1 10	41 38	—
1262	T H Swire & Sons	Park Rose	1225	Unknown	June 8	32	—	30 8	—	27 12	58 4	3 30	58 25	13 20	Nil	71 45	Third Prize
		British Friesians. Thrice Milked															
Class 215 1327	E G Barton . .	Chaddesley Hedge Rose 2nd	1491	April 16, 1923	June 22	18	—	27 8	27 4	30 12	85 8	4 63	85 50	18 52	Nil	104 02	First Prize and Champion (A)
1329	Capt. John Christie, M C	Glyndebourne Rik Lettice	1547	July 27, 1924	June 16	24	—	19 8	18 0	19 4	56 12	2 70	56 75	10 80	Nil	67 55	Fat below Standard
1330	Capt. John Christie, M C	Glyndebourne Torch 5th .	1666	Nov 20, 1924	May 15	56	—	22 8	26 4	22 0	70 12	2 74	70 75	10 92	1 6	83 27	Fat below Standard
1331	Capt H Douglas .	Lowhouse Pangirl . . .	1274	Mar 9, 1923	June 13	27	—	26 0	22 0	25 8	73 8	3 71	73 50	14 84	Nil	88 34	Second Prize
1336	Capt. F F A. Heilgers	Wyken Pels Peach 2nd .	1442	May 2, 1924	June 9	31	—	25 8	25 0	28 4	78 12	1 56	78 75	6 24	Nil	84 99	Fat below Standard
1340	Lord Rayleigh .	Terling Poverty 8th . .	1184	July 11, 1924	June 13	27	—	24 0	17 8	20 0	61 8	3 31	61 50	13 24	Nil	74 74	Reserve
1341	Miss Martin Smith	Duchess Peggy . . .	1428	Nov 20, 1925	May 30	41	—	26 8	26 8	26 4	79 4	2 80	79 25	11 20	0 1	90 55	Fat below Standard
1343	W. Curtis & Son .	Holyport Minna . . .	1414	Feb 15, 1925	June 12	28	—	24 4	22 0	22 12	69 0	2 51	69 00	10 04	Nil	79 04	Fat below Standard
1347	Bertram Parkinson	Creskeld Honeysuckle . .	1652	Sept 16, 1925	June 6	34	—	24 4	19 12	23 4	67 4	3 80	67 25	15 20	Nil	82 45	Fourth Prize
1348	Lord Rayleigh .	Terling Norah 20th . .	1442	Feb 9, 1925	June 6	34	—	24 8	19 0	21 0	64 8	3 68	64 50	14 72	Nil	79 22	Fifth Prize
1349	Lord Rayleigh .	Terling Trix 11th . . .	1302	Feb 12, 1925	June 7	33	—	27 0	21 0	23 0	71 0	3 23	71 00	12 92	Nil	83 92	Third Prize
		British Friesians. Twice Milked															
1356	W H. R Gilbert .	Astonville Ida 3rd . . .	1190	May 20, 1927	June 12	28	—	26 8	—	26 4	52 12	2 60	52 75	10 40	Nil	63 15	Fat below Standard
Class 216		**Ayrshires. Thrice Milked.**															
1443	John Johnstone .	Cowhill Pearl Queen .	1204	Jan 16, 1926	June 20	20	—	19 0	15 12	17 8	52 4	3 80	52 25	11 20	Nil	63 45	Fat below Standard
1444	Jones & Watson .	Auchenbrain Miss Craig 34th	1470	Mar 9, 1924	June 22	18	—	26 12	22 8	26 0	75 4	3 23	75 25	12 92	Nil	88 17	Second Prize and Reserve Champion, (B)
1453	Clement E Tory . .	Eglinton Juno . .	1344	Oct 30, 1923	April 26	75	—	24 4	22 0	29 4	75 8	2 83	75 50	11 32	3 5	90 32	Fat below Standard
1454	David Wallace . .	Auchenbrain Big Kate 13th	1211	Feb 22, 1923	June 12	28	—	26 12	22 8	22 8	71 12	4 48	71 75	17 92	Nil	89 67	First Prize and Champion (B)
1455	David Wallace .	Auchenbrain Miss Craig 25th	1288	April 17, 1922	May 22	49	July 2	23 4	19 4	17 8	60 0	3 46	60 00	13 84	0 9	74 74	Fourth Prize

TABLE I.—MILK YIELD CLASSES AT 1930 SHOW (*continued*).

No. in Catalogue	Exhibitor	Name of Cow	Live-weight	Date of Birth	Date of last calf	No. of days in milk	Date of last Service	Milk Yield								Average Fat percentage	Points				Awards and Remarks
								Morning		Noon		Evening		Total			Milk	Average Fat per cent × 1	Lactation	Total	
			Lb.		1930		1930	Lb	oz	Lb	oz	Lb	oz	Lb	oz						
Class 216		**Ayrshires. Milked Twice.**																			
1434	Matthew Cochrane	Morton Mains Swannie	1036	May 10, 1921	June 9	31	—	40	8	—		32	0	72	8	3 40	72 50	13 60	Nil	86 10	Third Prize
1438	Wm. B. Dronsfield	Rainton Lily 7th	1008	Feb 7, 1924	Mar. 20	103	July 4	18	8	—		15	4	33	12	2 72	33 75	10 88	6 30	50 93	Fat below Standard
Class 217		**Guernseys. Thrice Milked.**																			
1497	George Blight	Rosewarne Buttercup	1134	Jan. 28, 1922	May 16	55	—	21	4	14	8	14	12	50	8	3 71	50 50	14·84	1 5	66 84	Second Prize
1499	W. Dunkels	Fernhill Rose	1225	Aug. 5, 1923	June 17	23	—	19	8	14	8	17	0	51	0	4 05	51 00	16 20	Nil	66 20	Third Prize
1505	The Hon. Mrs. Waters	Poltimore Gipsy Queen	1169	May 22, 1925	June 22	18	—	23	4	16	12	17	0	57	0	4 18	57 00	16 72	Nil	73 72	First Prize
Class 218		**Jerseys. Thrice Milked.**																			
1559	Capt. F. B. Imbert-Terry, M.C.	Blue Hayes Bannock	980	Aug 19, 1922	Feb 25	135	May 16	21	4	12	4	13	4	46	12	5 33	46 75	21 32	9 5	77 57	Second Prize
1566	H. Cecil Pelly	Flashlight's Josy	847	Feb 24, 1925	May 12	59	—	20	12	15	12	17	12	54	4	3 55	54 25	14 20	1 9	70 35	Fourth Prize
1569	Miss Hayes Sadler	Lady Poppy	882	Mar. 3, 1926	May 11	60	—	17	8	18	8	19	12	55	12	2 86	55 75	11 44	2 0	69 19	Fat below Standard
1581	Cortlandt Taylor	Fairseat Favorita	910	Feb. 18, 1927	April 29	72	—	10	0	10	12	12	12	33	8	4 18	33 50	16 72	3 2	53 42	Highly Commended
		Jerseys. Twice Milked.																			
1550	Mrs. G. J. Austin	Moulton Ruby	924	Sept 2, 1920	Mar 1	130	May 29	29	12	—		24	4	54	0	4 65	54 00	18 60	9 00	81 60	First Prize
1554	A. W. Ruggles Brise	Bright Lass	938	May 30, 1923	May 26	47	—	21	8	—		17	8	39	0	4 00	39 00	16 00	0 50	55 50	—
1555	Miss Dronsfield	Norley Dayfield	770	Jan. 7, 1926	April 16	85		20	8	—		18	8	39	0	4 47	39 00	17 88	4 50	61 38	Reserve
1557	Mrs Evelyn	Wotton Moonlit Sands	945	June 19, 1925	April 6	95	July 5	26	4	–		24	0	50	4	4 47	50 25	17 88	5 50	73 63	Third Prize
1560	Capt. F. B. Imbert-Terry, M.C.	Blue Hayes Sporran	945	Dec. 16, 1917	May 11	60	–	24	8	–		17	0	41	8	4 62	41 50	18 48	2 00	61 98	Fifth Prize
Class 219		**Kerrys. Thrice Milked.**																			
1630	John Wm. Towler	Vaddy Trent 4th	784	Mar. 26, 1918	May 12	59	—	5	12	5	8	7	0	18	4	5 90	18 25	23 60	1 9	43 75	—
1631	John Wm. Towler	Wadlands Flash Fan	903	June 2, 1924	May 19	52	—	20	0	15	12	18	12	54	8	2 13	54 50	8 52	1 2	64 22	Fat below Standard
		Kerrys. Twice Milked.																			
1629	E. P. F. Sutton	Hattingley Camelia	826	Jan. 11, 1924	May 20	51	—	14	8	—		11	8	26	0	3 40	26 00	13 60	1 10	40 70	—
Class 220		**Dexters. Thrice Milked.**																			
1662	Mrs. H. P. May	Barbara	756	1915	June 19	21	—	19	8	15	12	17	12	53	0	2 90	53 00	11 60	Nil	64 60	Fat below Standard
		Dexters. Twice Milked.																			
1658	Miss Dora Box	Brokenhurst Penelope 3rd	784	April 8, 1922	1929 Oct 19	264	Feb 8	9	0	—		6	4	15	4	4 05	15 25	16 20	8 00	39 45	—
1659	Miss Dora Box	Wightwick Dolly 2nd	742	June 1, 1924	1930 Feb. 28	132	June 21	13	0	—		12	12	25	12	3 75	25 75	15 00	8 00	48 75	First Prize, Champion (?) D.C.S. Challenge Cup
1661	Miss Dora Box	Wightwick Dot 2nd	553	May 13, 1926	May 21	50	July 1	13	4	—		13	8	26	12	2 87	26 75	11 48	1 00	39 23	Fat below Standard

TABLE II.—*Average Results obtained from Cows of the various Breeds entered in the Milk Yield Classes*

No. of Cows Competing	Breed	Live Weight	Days in Milk	Yield of Milk	Fat percentage	Total Points
		Cwt. qr lb.		Lb oz.		
19	Dairy Shorthorn .	11 3 14	45	53 1	3·19	66·85
5	Lincoln Red . .	14 0 27	45	70 10	3·37	85·01
8	Red Poll . . .	12 2 22	105	54 13	3·39	72·92
5	Blue Albion . .	11 2 10	38	54 15	3·13	67·82
12	British Friesian	12 2 15	32	69 3	3·10	81·77
7	Ayrshire	10 3 19	46	63 0	3·28	77·63
3	Guernsey . . .	10 2 0	32	52 13	3·90	68·92
9	Jersey	8 0 9	82	46 0	4·24	67·62
3	Kerry	7 1 26	54	32 15	3·81	49·53
4	Dexter	6 1 9	117	30 3	3·68	48·01

Thrice-milkers numbered 46, 29 being only twice milked during the 24 hours. Fair comparisons, however, can only be drawn in the case of the Dairy Shorthorns, Blue Albions, and Jerseys, as is set out in Table III.

TABLE III.—*Comparison of Results of Cows milked Twice or Thrice daily in the Milk Yield Classes.*

Breed	No. of Cows	Live Weight	Days in Milk	Milk Yield	Fat Percentage	Points
		Cwt. qr lb		Lb oz.		
Dairy Shorthorn.						
Twice milked . .	13	11 3 12	47	51 0	3·18	64·72
Thrice „ . .	6	11 3 19	43	57 9	3·23	71·45
Blue Albion.						
Twice milked . .	3	11 2 23	44	48 15	3·02	61·64
Thrice „ . .	2	11 1 17	28	64 0	3·28	77·12
Jersey.						
Twice milked . .	5	8 0 8	81	44 12	4·44	60·82
Thrice „ . .	4	8 0 9	81	47 9	3·98	68·63

BUTTER TEST TRIALS.

The number of entries in this section continues to fall, only 62 entered in all, and of this small number only 41 competed, probably for the same reasons as suggested a year ago, *i.e.* the Show being held so far north, and the depression in trade. The conditions of entry and competition were the same as hitherto, and the results are shown on Tables IV and V.

TABLE IV.—RESULTS OF BUTTER TESTS AT MANCHESTER, 1930.

CLASS 221A.—COWS EXCEEDING 900 LB. LIVE WEIGHT.

No in Catalogue	Exhibitor	Name of Cow	Live weight	Date of birth	Date of last calf	No. of days in milk	Date of last Service	Milk yield in 24 hours	Butter yield	Ratio viz. lb. milk to lb. butter	No of points for butter	No. of points for period of lactation	Total No of points	Awards and Remarks
		Dairy Shorthorns. Thrice Milked.	Lb.		1930		1930	Lb. oz	Lb. oz.					
1020	W. Curtis & Son	Rainham Barrington	1232	Nov. 25, 1924	May 13	58	—	49 8	1 11¾	28·51	27 75	1 8	29·55	Below Standard
		Dairy Shorthorns. Twice Milked.												
1001	W. R. C. Ashby	Southerby Maid	1114	Mar. 24, 1923	May 20	51	—	58 12	1 15¼	30·32	31·25	1·1	32·35	Ratio over 30
1005	Sir W. Hicking, Bart.	Brackenhurst Jean	1568	June 21, 1923	May 25	46	—	34 4	0 12¼	55 46	12·25	0·6	12·85	Below Standard
1016	J. Pierpont Morgan	Longhills Belle 2nd	1575	Jan. 13, 1920	Mar. 20	112		40 4	0 15	50·40	15·00	5·0	20·00	Below Standard
1022	Edmond Hall	Beaumont Mary 3rd	1386	June 21, 1924	June 23	17	—	57 12	2 11½	21·24	43·50	Nil	43·50	Reserve
1023	Sir W. Hicking, Bart.	Martley Barrington	1393	Feb. 21, 1925	June 11	29	—	41 8	1 6	32·36	22 00	Nil	22·00	Below Standard
1040	Mark Walker	Hothersall Rosamond	1260	Nov. 4, 1925	June 9	31	—	47 12	1 6½	33 94	22·50	Nil	22·50	Below Standard
1048	Sir W. Hicking, Bart.	Debden Rose	1274	June 27, 1926	April 12	80	—	30 12	0 13	57·80	13 00	4·9	17·90	Below Standard
		Lincolnshire Red Shorthorns. Thrice Milked.												
1118	John Evens & Son	Burton Darkie 7th	1589	Sept. 14, 1923	May 10	61	-	63 12	2 4	28·32	36 00	2·1	38·10	- -
1124	John Evens & Son	Burton Fillpail 8th	1519	June 18, 1925	May 30	41	-	68 4	2 14	23·22	46 00	0·1	46·10	Fifth Prize
1125	John Evens & Son	Burton Irene 2nd	1680	April 10, 1921	May 5	66	—	65 4	2 4	29 00	36·00	2 6	38·60	- -
1126	John Evens & Son	Burton Jewess 5th	1596	Oct. 17, 1923	June 2	38	—	75 8	2 5½	32·20	37·50	Nil	37·50	Ratio over 30
		Red Polls. Thrice Milked.												
1181	Sir Merrik R. Burrell, Bart.	Knepp Prudence 4th	1652	Sept. 6, 1921	Mar. 31	101	-	58 0	2 0¾	28 32	32·75	5·0	37·75	—
1185	Mrs. M. M. FitzGerald	Marsden Mistake	1260	Sept. 5, 1924	April 10	82	—	51 8	1 4¼	43·06	20 25	4 2	24 45	Below Standard
1186	Viscount Folkestone	Longford Bloom	1491	Jan. 23, 1924	Jan. 2	189	June 23	43 12	1 7¼	30 13	23·25	Nil	23·25	Below Standard
1187	Mrs. R. M. Foot	Basildon Rosemary 2nd	1183	Feb. 18, 1924	June 6	34	—	79 8	1 14	42·40	30 00	Nil	30·00	Below Standard
1193	Capt. Allan Richardson	Seven Springs Quinine	1421	Oct. 12, 1923	Mar. 15	117	June 16	60 0	1 8¼	39 58	24·25	7·7	31 95	Below Standard
		Blue Albions. Thrice Milked.												
1265	C. H. Webster	Ivonbrook Fashion	1372	June 8, 1925	June 15	25	—	50 12	1 13	32 06	29 00	Nil	29 00	Below Standard
		British Friesians. Thrice Milked.												
1327	E. G. Barton	Chaddesley Hedge Rose 2nd	1491	April 16, 1923	June 22	18	—	85 8	4 4½	19 97	68 50	Nil	68 50	First Prize
1329	Capt. John Christie, M.C.	Glyndebourne Rik Lettice	1547	July 22, 1924	June 16	24	—	56 12	1 7½	38 62	23 50	Nil	23·50	Below Standard
1330	Capt. John Christie, M.C.	Glyndebourne Torch 5th	1666	Nov. 20, 1924	May 15	56	—	70 12	1 10¼	37 72	26 75	1·6	28 35	Below Standard

		British Friesians. Thrice Milked—*contd.*														
1340	Lord Rayleigh . .	Terling Poverty 8th . .	1134	July 11, 1921	June 13	27	—	61	8	2	2¼	29 66	31 25	Nil	31 25	—
1341	Miss Martin Smith .	Duchess Peggy	1428	Nov. 20, 1920	May 30	41	—	79	4	2	3	36·22	35·00	0·1	35·10	Ratio over 30
1343	W. Curtis & Son .	Holyport Minna . . .	1414	Feb. 15, 1925	June 12	28	—	69	0	1	7½	40 96	23·50	Nil	23 50	Below Standard
1348	Lord Rayleigh . .	Terling Norah 20th . .	1442	Feb. 9, 1925	June 6	34	—	61	8	2	11¾	22·06	43·25	Nil	43 25	Highly Commended
1349	Lord Rayleigh . .	Terling Trix 11th . . .	1302	Feb. 12, 1925	June 7	33	—	71	0	2	3	32·44	35 00	Nil	35 00	Ratio over 30
		British Friesians. Twice Milked.														
1356	W. H. R. Gilbert .	Astonville Ida 3rd . . .	1190	May 29 1927	June 12	28	—	52	12	1	3½	43 28	10·50	Nil	10 50	Below Standard
		Ayrshires. Thrice Milked.														
1430	John N. Drummond	Bargower Heather Honey 5th	1050	Mar. 28, 1925	June 13	27	—	78	4	2	9¼	30·34	41·25	Nil	41·25	Ratio over 3
1442	John Johnstone .	Cowhill Pearl Queen . .	1204	Jan. 16, 1926	June 20	20	—	52	4	1	8¾	33·76	24·75	Nil	24·75	Below Standard
1444	Jones & Watson .	Auchenbrain Miss Craig 34th	1470	Mar. 9, 1924	June 22	18	—	75	4	1	15	39 41	31 00	Nil	31 00	Below Standard
1453	Clement E. Tory .	Eglinton Juno	1344	Oct. 30, 1923	April 26	75	—	75	8	2	2	35·52	34·00	3·5	37·50	Ratio over 30
		Guernseys. Thrice Milked.														
1505	The Hon. Mrs. Waters	Poltimore Gipsy Queen .	1169	May 22, 1925	June 22	18	—	57	0	2	8	22·80	40·00	Nil	40 00	—
		Jerseys. Thrice Milked.														
1559	Capt. F. B. Imbert-Terry, M.C.	Blue Hayes Bannock . .	980	Aug. 19, 1922	Feb. 25	135	May 16	46	12	2	10¾	17·00	42·75	9 5	52 25	Second Prize, and E.J.C S. Gold Medal
1581	Cortlandt Taylor .	Fairseat Favorita . . .	910	Feb. 18, 1927	April 29	72	—	33	8	1	10¼	20 41	26 25	3 2	29 45	Below Standard
		Jerseys. Twice Milked.														
1550	Mrs. G. J. Austin .	Moulton Ruby	924	Sept. 2, 1920	Mar. 1	130	May 29	54	0	2	10¾	20 20	42·75	9 0	51·75	Third Prize, and E.J.C.S. Silver Medal
1557	Mrs. Evelyn . .	Wotton Moonlit Sands .	945	June 19, 1925	April 6	95	July 5	50	4	2	9½	19 36	41 50	5·5	47·00	Fourth Prize, and E J.C.S. Bronze Medal
1560	Capt. F. B. Imbert-Terry, M.C.	Blue Hayes Sporran . .	945	Dec. 16, 1917	May 11	60	—	41	8	1	15¾	20 01	31 75	2 0	33·75	Below Standard

CLASS 221B.—COWS NOT EXCEEDING 900 LB. LIVE WEIGHT

		Jerseys. Thrice Milked.														
1566	H. Cecil Pelly . .	Flashlight's Josy . . .	847	Feb. 22, 1925	May 12	59	—	34	4	2	0¼	20·50	32·75	1·0	34·05	Below Standard
		Jerseys. Twice Milked.														
1555	Miss Dronsfield . .	Norley Dayfield . . .	770	Jan. 7, 1926	April 16	85	—	30	0	1	14¼	20 02	30·25	4·5	34·75	Below Standard
		Dexters. Twice Milked.														
1659	Miss Dora Box . .	Wightwick Dolly 2nd . .	742	June 1, 1924	Feb. 28	132	June 21	25	12	1	0	25·75	16 00	8·0	24·00	Below Standard
1661	Miss Dora Box . .	Wightwick Dot 2nd . .	553	May 13, 1926	May 21	50	July 1	26	12	0	13¼	36 42	13·75	1 0	11 75	Below Standard

TABLE V.—*Average Results of all Cows in the Butter Test Classes.*

CLASS 221A.—COWS EXCEEDING 900 LB. LIVE WEIGHT.

Breed	No. of Cows	Live Weight	Days in Milk	Yield of Milk	Yield of Butter	Butter Ratio in lb.	Points
		Cwt. qr. lb.		Lb. oz.	Lb. oz.		
Dairy Shorthorn	8	12 1 16	54	47 11	1 7$\frac{1}{2}$	32·59	25·08
Lincoln Red .	4	14 1 0	51	68 3	2 7	28·06	40·08
Red Poll . .	5	12 2 1	105	59 2	1 10	36·26	29·48
Blue Albion .	1	12 1 0	25	59 12	1 13	32·96	29·00
British Friesian	9	12 2 2	32	67 14	2 2$\frac{1}{3}$	31·61	34·55
Ayrshire . .	4	11 1 17	35	70 5	2 0$\frac{3}{4}$	34·35	33·62
Guernsey . .	1	10 1 21	18	57 0	2 8	22·80	40·00
Jersey . . .	5	8 1 17	98	45 3	2 5	19·54	42·24
CLASS 221B.—COWS NOT EXCEEDING 900 LB. LIVE WEIGHT.							
Jersey . . .	2	7 0 24	72	46 10	1 15½	23·51	34·70
Dexter . .	2	5 3 4	91	26 4	15	31·08	19·37

Once again the British Friesian cow "Chaddesley Hedge Rose 2nd" has distinguished herself by giving more than 4¼ lb. of butter in the 24 hours. In fact, with a milk yield of 17½ lb. less than in the previous year, she yielded only ½ oz. of butter less, her milk being so much richer.

Unfortunately it was quite abnormal, the butter very pale in colour, and so soft that it was impossible to make it up till the following day, which raises the question whether in future points should not be given for the quality of the butter, in addition to those already awarded as above.

The butter ratios on this occasion varied from 1 lb. from 47 lb. of milk in the case of a British Friesian, up to 1 lb. from 17½ lb. of milk in the case of a Jersey, "Chaddesley Hedge Rose 2nd" yielding 1 lb. to 20 lb. of milk, a remarkable figure for the breed.

The medals given by the English Jersey Cattle Society for that breed were all awarded on this occasion, "Blue Hayes Bannock," shown by Captain F. B. Imbert-Terry, winning the Gold Medal, and although this cow had been calved 135 days, she gave nearly 47 lb. of milk, yielding 2¾ lbs. of butter during the 24-hour test.

Only fourteen of the 41 cows competing in the Butter Test were twice-milkers. Once again no comparison can be drawn except in the case of the Jerseys, their averages being :—

	No. of Cows	Live Weight	Days in Milk	Yield of Milk	Yield of Butter	Butter Ratio per lb.	Points
		Cwt. qr. lb.		Lb. oz.	Lb. oz.		
Jersey.							
Twice milked .	4	8 0 0	92	46 3	2 4$\frac{9}{16}$	20·25	41·81
Thrice „ .	3	8 0 16	89	44 13	2 1$\frac{11}{12}$	21·15	38·78

TABLE VI.—MILK YIELD CLASSES FOR GOATS AT MANCHESTER, 1930.

No. in Catalogue	Exhibitor	Name of goat	Breed	Date of birth	Date of last kid	No. of days in milk	Milk Yield				Percentage of Fat		Percentage of Solids not Fat		Points						Awards and Remarks
							Morn Lb oz	Even Lb oz	Morn Lb oz	Total Lb oz	Morn	Even	Morn	Even	Milk	Fat lb	Solids not Fat	Lactation	Deduction	Total	
	CLASS 281 (Quality)				1930																
1677	Miss Alexander	Stockwell Corella	Toggenburg	April 18, 1928	May 15	55	5 0	4 5	—	9 5	2 65	2 20	8 31	8 41	9 31	4 55	3 12	0 20	2	17 18	—
1678	Misses Window Harrison	Sandhill Nerine	Toggenburg	Feb 25, 1924	Feb 22	137	5 9	5 8	—	11 1	3 30	3 00	8 17	8 00	11 06	6 97	4 58	1 60	—	23 21	C
1679	Mrs. F. L. Morcom	Cleeter Quince	British Toggenburg	Jan. 18, 1925	Jan 29	161	4 6	3 14	—	8 4	3 10	3 00	7 70	7 93	8 25	5 03	2 58	2 00	—	17 86	—
1683	Miss Pope	Layland Pearl	British Toggenburg	June 10, 1927	Mar 20	111	7 4	7 10	—	14 14	2 80	2 85	8 17	7 97	14 87	8 40	4 80	1 10	2	27 17	Reserve
1685	Mrs. Arthur Abbey	Didgemere Destiny	British Saanen	April 1, 1927	Mar 13	118	7 14	7 2	—	15 0	3 60	3 60	8 14	8 28	15 00	10 50	4 92	1 30	—	32 02	Second Prize, Chamberlain Cup, Reserve for Dewar Cup with No. 1702, Reserve for Dual Purpose Challenge Certificate
1687	Mrs. F. L. Morcom	Cornish Prophetess	British Saanen	Feb. 1, 1926	Jan 29	161	3 15	3 6	—	7 5	4 25	3 80	8 70	8 66	7 31	5 90	2 57	2 00	—	17 78	—
1688	Miss K. Pelly	Theydon Pensive	British Saanen	April 6, 1926	Mar. 10	121	7 4	6 12	—	14 0	2 90	3 50	7 99	8 24	14 00	8 94	4 64	1 30	1	27 78	Fifth Prize, Reserve for Chamberlain Cup
1689	Miss K. Pelly	Theydon Barbarette	Anglo Nubian	Feb 17, 1927	May 1	69	5 10	5 3	—	10 13	4 90	5 15	9 48	9 41	10 81	10 85	4 08	0 40	—	26 14	H C and Pomeroy Cup
1691	Miss K. Pelly	Theydon Binkie	Anglo-Nubian	May 1, 1927	Mar. 12	119	4 12	4 8	—	9 4	4 20	4 35	8 97	8 95	9 25	7 91	3 31	1 30	—	21 77	C and Reserve for Pomeroy Cup
1692	Miss K. Pelly	Theydon Briar	Anglo-Nubian	Mar 20, 1928	Mar 29	102	4 4	4 2	—	8 6	3 80	4 35	9 50	9 41	8 37	6 81	3 17	1 00	—	19 35	—
1693	Mrs. Arthur Abbey	Didgemere Delysia	British Alpine	Mar 6, 1926	April 18	82	7 4	6 4	—	13 8	3 35	3 00	7 80	7 82	13 50	8 61	4 22	0 70	—	27 03	H C and Reserve for Abbey Cup
1695	Mrs. Arthur Abbey	Didgemere Druidess	British Alpine	April 29, 1927	1929 Aug 15	328	5 10	5 5	—	10 15	3 25	3 45	8 73	8 59	10 93	7 31	3 78	4 80	—	26 82	H C Abbey Cup, Dewar Cup with No 1712
1696	Mrs. Arthur Abbey	Didgemere Dingus	British	Mar. 3, 1928	1930 April 4	96	8 12	7 6	—	16 2	3 10	3 10	8 04	8 01	16 12	11 00	5 17	0 90	—	33 19	First Prize and Dual Purpose Challenge Certificate
1697	Mrs. Farrington	Stockwell Honor	British	Mar 17, 1927	April 5	95	4 8	4 9	—	9 1	3 30	2 90	8 58	8 52	9 06	5 61	3 09	0 90	1	17 66	—
1698	Mrs. F. L. Morcom	Cornish Maiden	British	Feb 21, 1927	Jan. 23	167	6 2	5 10	—	11 12	4 70	4 10	8 62	8 62	11 75	10 36	4 05	2 10	—	28 26	Third Prize
1699	Mrs. F. L. Morcom	Cornish Witch	British	April 20, 1924	Jan 23	167	5 11	5 0	—	10 14	3 30	3 15	9 00	9 09	10 87	7 02	4 93	2 10	—	24 92	C
1700	Miss K. Pelly	Theydon Pauline	British	Feb. 6, 1928	April 2	98	6 15	6 14	—	13 13	3 00	3 50	8 21	8 32	13 81	8 97	4 53	0 90	—	28 21	Fourth Prize
	CLASS 282 (Quantity)																				
1679	Mrs. F. L. Morcom	Cleeter Quince	British Toggenburg	Jan 18, 1925	Jan 29	161	4 6	3 14	4 9	12 7	—	—	—	—	12 43	—	—	2 00	—	14 43	—
1682	Mrs. F. L. Morcom	Fryston Senna	Toggenburg	April 29, 1923	Feb 23	136	4 8	3 6	4 0	11 14	—	—	—	—	11 87	—	—	1 60	—	13 47	—
1683	Miss Pope	Layland Pearl	British Toggenburg	June 10, 1927	Mar 20	111	7 4	7 10	7 9	22 7	—	—	—	—	22 43	—	—	1 10	—	23 53	Second Prize
1685	Mrs. Arthur Abbey	Didgemere Destiny	British Saanen	April 1, 1927	Mar 12	118	7 14	7 2	6 14	21 14	—	—	—	—	21 87	—	—	1 30	—	23 17	Third Prize
1688	Miss K. Pelly	Theydon Pensive	British Saanen	April 6, 1926	Mar 10	121	7 4	6 12	7 2	21 2	—	—	—	—	21 12	—	—	1 30	—	22 42	Fourth Prize
1693	Mrs. Arthur Abbey	Didgemere Delysia	British Alpine	Mar 6, 1926	April 18	82	7 4	6 4	6 7	19 15	—	—	—	—	19 93	—	—	0 70	—	20 63	H C
1695	Mrs. Arthur Abbey	Didgemere Druidess	British Alpine	April 29, 1927	Aug 15/29	328	5 10	5 5	5 4	16 3	—	—	—	—	16 18	—	—	4 80	—	20 98	Reserve
1696	Mrs. Arthur Abbey	Didgemere Dingus	British	Mar. 3, 1928	April 4	96	8 12	7 6	7 9	23 11	—	—	—	—	23 68	—	—	0 90	—	24 58	First Prize
1697	Mrs. Farrington	Stockwell Honor	British	Mar 17, 1927	April 5	95	4 8	4 9	4 6	13 7	—	—	—	—	13 43	—	—	0 90	—	14 33	—
1698	Mrs. F. I. Morcom	Cornish Maiden	British	Feb 21, 1927	Jan 24	167	6 2	5 10	5 12	17 8	—	—	—	—	17 50	—	—	2 10	—	19 60	H C
1699	Mrs. F. I. Morcom	Cornish Witch	British	April 20, 1924	Jan 24	167	5 14	5 0	4 15	15 13	—	—	—	—	15 81	—	—	2 10	—	17 91	C
1700	Miss K. Pelly	Theydon Pauline	British	Feb 6, 1928	April 2	98	6 15	6 14	7 3	21 0	—	—	—	—	21 00	—	—	0 90	—	21 90	Fifth Prize

MILK YIELD TRIALS
(GOATS, CLASSES 231 AND 232)

Nineteen goats competed in these Trials. The superintendence of the milking, etc., was again in the hands of Mr. T. W. Palmer. the Hon. Secretary of the British Goat Society. Full particulars of the Trials are given in Table VI

For the first time a small bar was provided for the sale of the goat's milk produced in the Showground, and it proved a success. All the available milk was disposed of, a sum of more than £12 being realised.

WORKING DAIRY.

As usual, demonstrations in the respective butter yields from milks of the various breeds were given, as well as demonstrations in butter making with hand and steam churns, and also the manufacture of soft cheese and clotted cream, for which a ready sale was obtained.

The entries in the Butter-making Competitions numbered 103 as against 70 at Harrogate, the Dairy being crowded with spectators.

Three novice classes were provided, one reserved for Lancashire and one for Cheshire, and it was very popular with Lancashire folk when the Championship was won by a Manchester competitor, Miss Mary B. Ashley of Irlam.

In order to still further increase the interest in these competitions, it has been decided to hold an Inter-County Butter-making Championship at the Warwick Show, for teams of three competitors from each county, including a Champion, a prize-winner, and a novice, and it is hoped there will be keen competition for the honours.

It was very gratifying to all connected with the Working Dairy at Manchester, when Lady Daresbury, who was accompanied by the Honorary Director, gave away the Awards in the Championship Butter-making Contest on the last afternoon of the Show, perhaps the final function they attended in the Showground. Nowhere has Lord and Lady Daresbury's constant guidance and help been more appreciated than in the Dairy and Produce section.

Once again I must record my sincere thanks to all the Dairy staff, who worked so hard and so well to make the week's work pleasant and successful. No Steward could wish for a better lieutenant than Mr. R. J. B. Gubbins; Miss Noble and her dairymaids are as pleasant to work with as they are to look upon, and Mr. Hasted's services, so kindly granted to us for many years now by Lord Daresbury, are invaluable.

WILLIAM BURKITT.

Grange Hill,
Bishop Auckland.

AGRICULTURAL EDUCATION EXHIBIT, MANCHESTER, 1930.

DURING recent years the provincial Agricultural College for the area in which the Show is held has been responsible for the principal part of the Education Exhibit. Although there in no Agricultural College in either of the counties adjacent to Manchester, both Lancashire and Cheshire have well-equipped Farm Institutes at Hutton and Reaseheath respectively, and the responsibility of staging an exhibit illustrating the work of Agricultural Education in the area devolved mainly on these two Institutions. Both made full use of the opportunity provided by the Society for illustrating the scope of the teaching and advisory services provided by progressive Education Authorities. The more national aspects of Education and Research were represented by the exhibits of the Rothamsted Experimental Station and the National Institute of Agricultural Botany.

CHESHIRE SCHOOL OF AGRICULTURE, REASEHEATH.—By the removal of several bay divisions and the very efficient use of coloured drapery, as well as by the arrangement of the exhibits, the Cheshire School of Agriculture staged a most attractive display occupying almost one side of the Education Pavilion.

The centre of the stage was occupied by three large panels each displaying a number of photographs illustrating respectively the Teaching, Experimental, and Advisory work carried out by the Cheshire Education Authority. This formed an excellent background for a series of sectional exhibits dealing with problems of immediate importance in Dairy Farming, Dairying, Poultry-keeping and Horticulture.

In the Dairy section an interesting exhibit was a series of five cheese, each made from equal quantities (200 lb.) of milk which had had varying proportions of fat removed. The weight of cheese made in each case is shown below:—

From whole milk	21 lb.
,, milk with ¼ cream removed . . .	19¼ ,,
,, ,, ,, ½ ,, ,, . . .	18½ ,,
,, ,, ,, ¾ ,, ,, . . .	17¾ ,,
,, ,, ,, all ,, ,, . . .	16¼ ,,

The butter made from the removed cream was also shown. A financial statement set out the comparative returns from the sale of cheese and butter in each case. This showed, for example, that the removal of half the cream resulted in a loss of 1*s*. 9½*d*. compared with the whole milk cheese.

The Reaseheath School of Agriculture has been closely identified with the movement for grading Cheshire cheese.

Specimens were shown illustrating the chief defects in this cheese; the causes of these faults were also indicated.

In the Dairy Farming section perhaps the most striking exhibit was the series of turves illustrating the different habit of growth of indigenous and commercial strains of grass, *e.g.*, Perennial Rye Grass and Cocksfoot.

The work of the Cheshire Authority at Taylor Fold Farm, Hyde, is probably unique. By arrangement with the farmer, the Reaseheath Staff took over the general supervision of a very poor, exposed farm, typical of the milk-selling farms of the industrial area of south-east Lancashire and north-east Cheshire. The application of modern methods of grassland treatment and stock management has greatly increased both the stock-carrying capacity of the grass and the farm profits. Some of the more important results were clearly indicated by means of diagrams, which brought out, amongst other things, the fact that the sale of milk in 1922 realised £891, whereas in 1929 the sale of milk realised no less than £2,141.

In that portion of the stand devoted to horticulture, probably the most striking exhibit was a turf taken from a lawn treated with two heavy spring dressings (4 cwt. per acre) of Sulphate of Ammonia with the result that the objectionable plants such as clovers, plantains and daisies had completely disappeared. This exhibit was the more arresting because a turf shown in the agricultural section clearly demonstrated that on grassland under intensive management, fairly heavy dressings of Sulphate of Ammonia (along with lime and phosphates) had not destroyed the clover but had produced a well proportioned herbage of clover and grasses. Other exhibits in this section illustrated the possibility of pest control by tar distillate washes and the effects of different methods of soil sterilisation.

The growing importance of poultry-keeping was indicated by the prominence given to exhibits dealing with this branch of agriculture. A series of pathological specimens illustrated some of the commoner diseases of poultry, such as tuberculosis, bumble foot, roup, black head, etc. In the half-size model of an intensive rearing house that had proved very successful at Reaseheath, special attention was called to the arrangement for admitting direct sunlight. A home-made hoover and a series of specimens illustrating common faults in eggs were also shown in this section.

ROTHAMSTED EXPERIMENTAL STATION.—The work of the Rothamsted Experimental Station is less familiar, and is not perhaps of such immediate interest to Northern farmers as to those of the South and Midlands. Nevertheless, no national education exhibit would be complete without the work of this famous centre being represented, and a bay was occupied by an exhibit from Rothamsted. Potatoes are a very important crop in the Show area and one of the most valuable exhibits illustrated the interaction of Nitrogen and Potash in fertilisers for the potato crop. The most successful combination used contained approximately equal proportions of Sulphate of Ammonia and Sulphate of Potash. Prominence was given to an exhibit illustrating how the cheap nitrogen of the air, if fixed in the form of a fertiliser, may be converted into food products; 1 cubic foot of air containing approximately 1 oz. of nitrogen, is normally capable of providing for example, ¾ pint milk, or 1⅓ oz. of cheese, or 7 oz. oatmeal, or 6 lb. potatoes, or 10 oz. bread. A very complete series of diagrams, models and specimens illustrated the yields from the classical wheat plots, where wheat has now been grown for 88 years in succession. Other exhibits illustrated the effect of lime on the hay plots and of Gall Midges attacking basket willows, a crop of considerable importance in various parts of Lancashire.

NATIONAL INSTITUTE OF AGRICULTURAL BOTANY.—The work of the Institute at the Ormskirk Potato-testing Station is well known to north-country farmers and especially to Lancashire potato growers, and the very comprehensive exhibit staged by the Institute, occupying one end of the Education Pavilion, provided an excellent opportunity for learning something of the Institute's activities in other directions. In the section of the stand devoted to the work of crop improvement an excellent model showed the method adopted of laying out field trials of cereals on the alternate drill strip system. Whilst this was of great interest to those engaged in experimental work farmers probably found more attractive the samples, notes, figures and diagrams setting out the more important results obtained in field trials on varieties of cereals by the application of the accurate methods described.

Unfortunately the greater part of the potato-growing area in Lancashire is scheduled under the Wart Disease Order and any method of determining more readily than by field trial the immunity or otherwise of new varieties is of great economic value. Consequently one of the most interesting exhibits was the model illustrating the latest method of testing indoors the reaction of potatoes to wart disease. In the potato section was also shown a series of growing plants illustrating the effect of Mosaic Disease and Leaf Roll.

Although farmers are now generally familiar with the statement of the percentage of germination and purity supplied with purchased seed, they do not always appreciate the significance of the figures. An opportunity of remedying this defect was provided by the working demonstration of the methods in use at the official Seed-testing Station in determining the percentage of purity and germination of seed samples. Other exhibits included diagrams showing the results of trials with different strains of sugar beet and varieties of spring oats.

EUGENICS.—The exhibit of the Eugenics Society consisted of tables, and graphs illustrating the main principles of heredity.

LANCASHIRE COUNTY HORTICULTURAL DEPARTMENT.—The main exhibit of the Lancashire County Council will be described later, but the Horticultural Department staged their exhibit in one of the bays in the Education Pavilion. Considerable space was devoted to tomatoes, a crop of increasing importance in the district. Specimens were shown from a variety trial that had been carried out in the Blackpool district under ordinary commercial conditions. The table setting out the results showed that in this experiment Manx Marvel had given the highest yield of fruit as well as the best cash returns. The effect of soil sterilisation on tomatoes as well as other crops was also shown.

Particularly interesting were the plants staged in connection with a trial that had been made for the control of club root in cauliflowers by the use of corrosive sublimate. In this experiment, which was carried out near Nelson, part of the soil in the cold frame before the seeds were planted was watered with a solution of corrosive sublimate, at the rate of 1 oz. to 10 gallons of water, applied at the rate of 1 gallon of solution to every 40 feet of drill. A similar amount of water was applied to the control drills. When the seedlings were 1 to 1¼ inches high a further application of corrosive sublimate was given at the rate of 1 oz. to 12 gallons of water, which was applied at the rate of 1 gallon to 20 feet of drill; two further applications were made later and a similar solution was poured into the holes when the plants were planted out. The results showed that the treatment had had a marked effect in reducing loss through Club Root. A very large proportion of the untreated plants were completely destroyed and of the survivors a smaller proportion were saleable than in the case of the treated crops.

Other exhibits included specimens of vegetables grown under different manurial treatments and a very comprehensive series of specimens staged by the Advisory Department of Manchester University of the more common diseases of garden crops.

In connection with this exhibit practical pruning demonstrations were given daily by the staff from a platform outside the pavilion.

LANCASHIRE COUNTY COUNCIL STAND.—The main exhibit of the Lancashire County Council was staged alongside the Educational Pavilion in a pavilion which is already well known to visitors to the Royal Lancashire Show.

The pavilion, as usual, was divided into three sections, one illustrating the work of the agricultural department in connection with crops and live stock, another the activities of the dairy school, and a third dealing with the work of the poultry station. In the agricultural section pride of place was given to problems of grassland management. The very extensive investigations carried out by the department in the improvement of Lancashire grassland was very fully illustrated by a series of turves taken from experimental plots in various parts of the county. The tendency in recent years to emphasize the importance of management rather than manurial treatment was well brought out in this display. One of the most striking exhibits was a section of soil taken from a field at the County Council Farm, which was mole drained in 1926. This clearly showed the persistence of the aperture left by the mole drain after 4½ years. The fundamental importance of lime on Lancashire soils was very strikingly brought out in the grassland exhibit.

By means of charts and exhibits a picturesque and comprehensive view was given of the principal factors concerned in the profitable production of milk and pork. In this section again, full use was made of the information gained from experiments that have been carried out during recent years at the County Farm.

Full advantage was taken of the opportunity the Stand provided for bringing to the notice of the farming community the recent developments in agricultural educational work in the county, particularly with regard to the advisory service provided. A coloured map clearly indicated the agricultural organiser to whom a farmer living in any particular district in the county should apply for assistance. A most attractive panel of photographs effectively illustrated the work at the County Council Farm.

Although the season of the year prevented any extensive display of arable crops, a considerable proportion of the agricultural section was occupied by exhibits staged by the Advisory Officers in Plant Pathology of Manchester University, which dealt mainly with the pests and diseases of arable crops, particularly those of special interest to farmers in the northern counties.

In the dairy section, besides the usual display of butter and cheese made by the students at the County Dairy School, there were a number of exhibits illustrating points of special interest in dairy management, including an illustration of the Reductase test for the presence of gas-producing organisms in milk. Of special interest were the samples of ripe Stilton cheese (very uncommon at the time of the year the Show was held) which were put up in attractive jars.

In the poultry section, besides the display of eggs and dressed poultry, and an exhibit illustrating the egg-laying trials, a source of great interest were the trussed Chinese goslings of from 10 to 12 weeks old. It was stated that compared with the better-known Embden the Chinese gosling has no yellow fat, and has a very "gamey" flavour. This department also organised daily demonstrations in trussing which were given on a platform adjoining the pavilion.

J. J. Green.

Education Department,
County Offices, Preston.

THE FORESTRY EXHIBITION AT THE MANCHESTER SHOW, 1930.

There were 36 competitive exhibits, and 33 non-competitive, which is an increase on last year's show.

The Exhibition was an improvement on that of 1929, and the Stewards, Lord Hastings and Mr. A. D. C. Le Sueur, are to be congratulated on the result of their hard work, but they still deserve more support and it is hoped that in future years there will be an increased number of entries. Many people do not realise the amount of work which falls on the Stewards in connection with the Forestry Exhibition. The number of visitors to the Section and the questions asked are proof that the public is keenly interested.

In their different ways credit is due to all the Exhibitors, but the Marquis Camden and Sir George Courthope and their Staffs deserve special mention for their very interesting and instructive exhibits. Lord Camden, who was awarded the Gold Medal for the best general collection, is much to be congratulated, the specimens and photographs showing the development of chestnut underwood being most instructive. It may not be generally realised that to be eligible for the Gold Medal the exhibit must contain material both inside and outside the Pavilion.

Silver and Bronze Medals were offered in each Class as First and Second Prizes.

In Class 1, for Boards of Oak, Elm, Ash and Beech Timber the first prize was won by the Lowther Estates, Ltd., whose boards were very well sawn. Lord Camden was second.

In Class 2, for Boards of Larch, Spruce and Scots Pine Timber Lord Camden was first, with the Lowther Estates, Ltd., second.

In Class 3, for Boards of any other Hard Wood or Broad-leaved Timber the first prize went to the Lowther Estates, Ltd., the Birch and Sycamore being excellent specimens. The Earl of Powis gained second prize.

Class 4, for Boards of any other Coniferous Timber first prize was won by the Earl of Powis, with a very fine and varied collection. Lord Powis also showed excellent boards in other classes, but unfortunately they did not comply with the regulations.

Class 5. No entry.

In Class 6, for Oak Field Gate for farm use, cost not to exceed 40*s*., the first prize was won by Lord Camden, with the Chatsworth Estates Co. second.

In Class 7, for Field Gate for farm use, cost not to exceed 35*s*., first was also won by Lord Camden, with the Chatsworth Estates Co. second.

In Class 8, for Field Gate of Rent or Cleft Timber, cost not to exceed 25*s*., there was only one entry, Lord Camden's, who was awarded a Bronze Medal.

In Class 9, for Hunting Gate or Wicket, Lord Camden was first with an excellent gate, and the Chatsworth Estates Co. second.

In the Gate Classes there were 12 entries. The winning gates were excellent, though possibly some people may prefer other types of fasteners.

In Class 10, for Tree Guards, only 3 entries were made, the Chatsworth Estates Co. being the winner, with Lord Camden second. If rabbits were plentiful, probably some of the guards would require attention after they had been up a little time.

In Class 11, for length of Fencing of Home Grown Wood, Lord Camden was first and the Chatsworth Estates Co. second. For their purpose both were good types of fence.

Classes 12 and 13. No entries.

Non-Competitive Exhibits. There were a number of these, which made a very interesting and instructive collection. To mention some of them :—

The Forestry Commission with models showing planting on peat and fixing sand, to be followed by planting Maritime Pines.

The British Wood Preserving Association with specimens showing depth of penetration of creosote.

The Royal Agricultural College, Cirencester, with an exhibit from the College experimental plots showing the rate of growth of various species of forest trees.

The Forest Tree Nurseries with a well-arranged exhibit, including a plan showing lay-out of an estate for Forest Sport and Amenity, which attracted much attention.

A Silver Medal was awarded to each of the above-mentioned exhibits, which were all well worth studying.

There were 2 exhibits from Private Estates, both of which were excellent in every way. That of Lord Camden has already been mentioned. Colonel Sir George Courthope's exhibit illustrated the conversion of home-grown timber and the manufacture in estate workshops of articles required on the estate.

In the Demonstrations, all of which attracted much attention, Wilfred Barker & Son showed the rending of Oak for Basket and Hoop manufacture, J. Pearson showed the making of Clog Soles from native timber, T. L. Smith & Co. demonstrated with their well-known Portable Cross-cut Saw, and George Walker had a working exhibit showing the making of Field Gates, Fencing, etc., of Cleft Oak; he also showed an excellent hinge called "The Quorn Adjustable Gate Hinge," which appeared to make the adjusting of sagging gates an easier matter than it is now.

R. BIRCHENOUGH.

Estate Office,
Chevening,
Sevenoaks.

REPORT OF THE JUDGES ON THE PLANTATIONS AND NURSERIES COMPETITION, 1930.

THE Plantations and Nurseries Competition was this year confined to the counties of Cornwall, Devon and Somerset. There are many famous estates in this area, and it is to be regretted that entries were small, only thirty being made from seven estates. This paucity of entries was practically entirely due to the severe gales of recent years, which have strewn the country with fallen timber and wrecked many first-class plantations.

An outstanding point throughout was the fact that nearly all the young plantations entered were Corsican pine, Douglas fir or Japanese larch, and we are therefore of opinion that it is time that Class IV, the so-called "exotics," should be revised, and these species which now seem to form the bulk of our conifer plantings placed in the same class as Scots pine, Norway spruce and European larch.

As a general rule there was a distinct tendency towards underthinning, and several woods were seen in which the crop had been practically ruined owing to this reason. In others it had been carried out too late, with the result that extensive "wind blow" had taken place. Some owners do not realise that the wide thinning now advocated in larch for example must be a process continuous from the beginning and that a heavy first thinning cannot be carried out with safety on crops over 25 years of age. The reason given for delay was usually lack of demand for thinnings, but this cannot be a reasonable excuse for ruining the whole crop. There seemed to be a lack of knowledge regarding the economic possibilities of timber, especially ash, which appears to grow extremely well in many places and could do the same in far more. The price of good quality ash will stand almost any railway rate and still leave a good profit. Another outstanding example was a fine sycamore butt suitable for high quality rollers which had been cut up into short lengths for firewood as "no market could be found for it." This butt could have been sent to Lancashire at an excellent price. On the other hand, two estates were visited where everything was either sold or utilised, and for which no market seemed to be too far away, provided there was any profit, however small, to be made. It cannot be too strongly emphasised that in these days of foreign competition a forester must learn to sell his timber as well as grow it, and if the market will not come to him he must go to the market.

Generally speaking, species had been carefully chosen and few bad mistakes were seen. The outstanding one was a strong clay planted with Scots pine, which was naturally a complete failure.

In most cases we were glad to notice that definite effort was being made to re-stock felled areas and in fact on all estates entered for competition as a unit, war felling had been caught up. We, however, pointed out in one or two places that it would have been better to get all old woods into good condition before proceeding to make new ones.

We are of opinion also that owners in the south-west of England should consider the merits of hardwoods more carefully before plunging into wholesale conifer planting. We saw excellent sites for ash, sycamore, Spanish chestnut and poplar occupied by young conifers, the financial success of which in such places can never hope to be as good as those of good quality broad-leaved species, with comparatively small plantations. In places such as these, far from consuming centres, a high price per cubic foot is an absolute necessity for financial success.

Landowners and their agents in certain cases did not seem to have studied the schedule carefully enough, as more than one plantation was entered in a class for which it was too young, the age having been calculated as the age of the tree instead of as from the date of planting out.

Very little disease was seen, but we were informed that trouble with Honey fungus had been experienced on areas planted with Corsican pine after hardwoods. On one estate Sitka spruce had been found so liable to root rot that its planting was being discontinued.

Chermes cooleyi appeared to be epidemic in practically all young green Douglas fir plantations, and there seemed to be a general opinion that it checks growth to a definite extent. Its absence on the Fraser River variety was, however, particularly noticeable.

We were fortunate in having good weather and largely owing to this fact were able to work to our time-table almost to the minute, and in this we were largely helped by the assistance of the landowners whose woods we were inspecting, their agents and their foresters. For the kindness and hospitality shown to us by all of them we owe our grateful thanks. We were much struck by the keenness and interest shown by the majority of owners who, in several cases, came round with us in person, thus contributing in no small measure to the success of a very interesting and enjoyable tour.

AWARDS.

CLASS I. *Hardwoods intended for final crop.*

(*a*) Plantations aged from 10 to 25 years.

The Silver Medal in this class was awarded to the Dartington Hall Estate, Totnes, for a block of ash 14 years old (Chacegrove wood) planted at 4 feet by 4 feet on a fresh loam. These poles are making excellent growth. They are now about 30 feet in height and have been thinned and hand pruned. Further thinning will be necessary in the next few years and underplanting with beech is suggested as a protection against soil deterioration and also to keep the stems clean and free from " bark bind " which occasionally happens when excessive light is suddenly let into a plantation of this kind by thinning. The best poles at present contain about 1¼ cubic feet of timber. An interesting point about this plantation is the ground flora, which consists of a thick carpet of wood garlic long considered a reliable soil indicator for this species.

(*b*) Plantations over 25 years.

In this class Earl Poulett was awarded the Silver Medal for a really first-class block of pure Ash 65 years of age at Warren Hill on the Hinton St. George Estate, Crewkerne. The trees averaged 25 feet apart and many were over 70 feet in height with a clean run up the butt of 25 feet and over. Several trees girthed 16½ ins. Q.G. at breast height and the average content would appear to be about 20 feet per tree with several up to 40 cubic feet, all first-class timber. Aspect north-east. Soil, fresh loam.

The ground cover consists of high laurels and other shrubs with a certain amount of self-sown sycamore. This block is now at its best and steps should be taken for a total clearance in the next few years. It was stated that the block was believed to be naturally regenerated. If such is the case it would be difficult to find a better proof of the superiority of a regenerated hardwood over one that has been artificially established.

CONIFERS.

CLASS II. *Stage A.* (10 to 20 years.)

Silver Medal awarded to Sir Francis Dyke Acland, Killerton, Exeter, for a 6-acre block (Sprydon) of Japanese and European larch aged 10 years on which we have no comment to make.

Bronze Medal not awarded.

CLASS II. *Stage B. Conifers over* 20 *years.*

The Silver Medal was awarded to Mr. Alexander F. Luttrell, Dunster Castle, for "Hatswood," a very uniform stand of Corsican pine 20 years of age. Planting was done with 1 year 2 year transplants on rough coppice land the ground flora of which was chiefly bilberry. Height at present about 35 feet. Breast high Q.G. 3 ins. with about 1,250 trees per acre. An excellent example of a species which is difficult to raise in any case being successfully utilised for stocking a poor soil exhibiting barren rock in numerous places.

The Bronze Medal was awarded to Mr. Luttrell for "130 Acre Wood" which consists chiefly of Corsican pine with some Scots, larch, and Douglas fir at the lower end. The stand is about 23 years old, is extremely even and is being very carefully thinned. At present the crop appears to average about 900 trees per acre and 2½ cubic feet per tree. The plantation occupies the side of a hill previously covered by furze, heather and scrub oak.

CLASS III. *Mixed woods. Stage A.* (10 to 20 years.)

No entry.

Stage B. (Over 20 years.)

In this class the Silver Medal was not awarded, no plantation being up to the necessary standard. The Bronze Medal was, however, awarded to the Tregothnan estate of the Viscount Falmouth for a block of well-grown larch and ash 22 years planted. The soil appeared thoroughly suited to the mixture and could have stood rather more ash, the poles of which were of prime quality. It should, however, have been thinned several years ago and trouble from wind may be anticipated when the operation takes place.

CLASS IV. *Exotic species.*

The Silver Medal was awarded to Mr. Alexander Luttrell for an area of Sitka spruce and Douglas fir planted pure in two adjoining blocks. The Sitka spruce is on an old orchard site, the soil being a dark loam, and is probably the finest crop of its kind in the country. The measurements in 1927–8 (Forestry Commission Sample Plot No. 41) were as follows :—

Age	Height	Q.G.	Stems per acre	Vol. per acre
18	47 ft.	4¾ in.	906.	2,780 cubic feet.

The Douglas fir planted on a similar soil after potatoes is an excellent crop, but not to be compared with the spruce. Forestry Commission measurements 1927–8 (Sample plot No. 42) are as follows :—

Age	Height	Q.G.	Stems per acre	Vol. per acre
18	37 ft.	4 in.	992	1,780 cubic feet.

This entry was also awarded the special medal given by the Royal English Arboricultural Society for the best plantation. In both cases height and girth increment are satisfactory and thoroughly typical of first quality crops.

Sir Francis Acland was awarded the Bronze Medal for a 5 acre block of Corsican pine (6 years) planted 5½ feet by 5½ feet in *quincunx*. Planting 2 year 1 year, 12 inches high. No check whatsoever. The length of the annual growth in the last 4 years is as follows :—22 in.—24 in.—24 in.—28 in. The crop is about 11 feet high, extremely level and with no gaps worth mentioning.

Mention should also be made of the excellent block of *Tsuga Albertiana* seen on the Dunster Castle estate planted 4 × 4 at a cost of only £3 per acre and now about 55 feet high.

CLASS V. *Coppice Woods.* No entry.

CLASS VI. *Estate Nurseries.*

The Silver Medal was awarded to the Dartington Hall estates for Broad Lears nursery near Totnes. This nursery is two acres in extent on a limestone shale formation. The aspect is south-west. It is in excellent condition and fully stocked. There was evidence of damage by drought to spruce, as might be anticipated on this soil and aspect. Shading is carried out by hop netting on frames and a system of irrigation being installed which should prevent future trouble. The nursery is well laid out, extremely well kept and the stock book can only be described as a model of its kind.

CLASS VII. *Best managed woodland estate.*

We had no hesitation in awarding the Gold Medal to the Fortescue Estates Company, Castle Hill, Barnstaple. This estate is situated on undulating land which varies in altitude from 880 feet to 225 feet. The soil for the most part is a well-drained loam over shale, working down to a stiff blue clay in the lower part of the estate. Road and railway facilities are excellent. Rainfall is approximately 40 inches per annum.

The total area of woodland is about 1,000 acres consisting largely of conifers with some oak, ash and beech.

The chief species now being planted are Douglas fir, Norway spruce, Corsican pine and Japanese larch, also some beech and ash. Japanese larch is at present far more promising than the European variety.

The nursery extends to over 4 acres, is well situated and very well kept, but owing to the liability of the soil to "cake" no seedlings are raised, these being bought and grown on.

A working plan for the woodland was drawn up by the late Dr. W. R. Fisher in 1905, and this was followed fairly closely until the War, during which a very large acreage was cleared. This area has now been replanted. The woodland records are extraordinarily complete. All woods felled for revenue are replanted, these averaging some 10 acres per annum over a period of 30 years.

All timber is converted at home partly for estate use and partly for sale, the average amount of round timber brought to the mill being about 14,000 cubic feet per annum. The plant consists of an automatic rack bench with a 5-foot inserted tooth saw and two auxiliary benches worked off a 30 h.p. turbine. A band saw for cutting felloes, etc., has been recently added. Creosoting is carried out in a hot steeping tank taking a charge of 200 cubic feet.

The department employs a forester and twenty-eight men, and the financial results show very clearly the advantage of home conversion on an estate of this size. The ornamental woodland is well kept and a distinct asset to the estate as a whole. An outstanding feature of this estate is the great number of giant Douglas fir in Yollacombe wood, originally planted with spruce which they have long since outstripped. These trees called by Dr. Fisher *Pseudotsuga taxifolia* var. glauca appear to be var. Caesia (Fraser River).

They were planted about 65 years ago and many of the trees are now well over 100 feet high with a Q.G.b.h. of about 25 inches and several are over 120 feet in height with a Q.G.b.h. of 28 inches.

The Silver Medal was awarded to Mr. A. M. Williams, Werrington Hall, Launceston. Management has been carried out by the owner himself since 1920, and with a definite scheme of replanting all war fellings have now been made good. The plantations are interesting and there is a particularly good spruce block on clay loam 16 years of age in which are poles 45 feet high giving a Q.G. of 4 ins. The estate does its own conversion and moreover possesses an excellent "pressure" creosoting plant taking a charge of 200 cubic feet. Cattle boxes of estate-grown spruce creosoted and erected in 1905 are still in excellent condition.

The Bronze Medal was awarded to the Hinton St. George estate, the property of Earl Poulett.

A. D. C. Le Sueur } *Judges.*
W. H. Bennett }

REPORT OF THE JUDGES ON THE ORCHARD AND FRUIT PLANTATIONS COMPETITION, 1930.

(*Restricted to an area comprising the Counties of Hereford, Worcester, Gloucester, Warwick and Shropshire. All orchards and plantations must have been in the occupation of the Exhibitor for at least two years before the date of entry.*)

AWARDS AS PER CLASSES IN SCHEDULE.

Class 1.—For the best managed orchard or orchards of fruit trees planted not less than eight years on grass, being not less than 1 acre and not more than 8 acres.

First Prize (*Silver Medal*) *:* Cebert Geo. Ricketts, Gamage Hall, Dymock.
Second Prize (*Bronze Medal*) *:* Thos. H. Brookes, Old Hall Farm, Uckington, near Cheltenham.
Reserve : H. W. Biddlecombe, Prestberries Farm, Hartpury, Gloucester.
V.H.C. : Harold J. Phelps, Tibberton, near Gloucester.

Class 2.—For the best managed orchard or orchards of fruit trees planted not less than 8 years on grass, being over 8 acres.

First Prize (*Silver Medal*) *:* Hilltop Fruit Farm, Ledbury.
Second Prize (*Bronze Medal*) *:* Harold J. Phelps, Tibberton, near Gloucester.
Reserve : F. Paget Norbury, Sherridge, Malvern.
H.C. : Capt. Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.

Class 3.—For the best managed cultivated plantation in bearing, to include any kind of fruit planted not less than

8 years, being not less than 1 acre and not more than 3 acres.

First Prize (Silver Medal): Capt. Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.
Second Prize (Bronze Medal): Eardiston Farming Co. (1919), Ltd., Stockton, Worcester.
Reserve: J. C. Alpass, Te Hongi, Longford, Gloucester.

CLASS 4.—For the best managed cultivated plantation in bearing, to include any kind of fruit planted not less than 8 years, being over 3 acres.

First Prize (Silver Medal): Overbury Orchards, Kemerton, near Tewkesbury.
Second Prize (Bronze Medal): Capt. Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.
Reserve: Hilltop Fruit Farm, Ledbury.
V.H.C.: F. Paget Norbury, Sherridge, Malvern.
H.C.: H. B. Pollard, 40 Green Hill, Evesham.

In Classes 3 and 4 the intercropping of vegetables did not disqualify.

CLASS 5.—For the best managed orchard or orchards planted not less than 8 years, being not less than 3 acres, composed wholly or mainly of Cider varieties of Apples and/or Perry Pears.

First Prize (Silver Medal): Harold J. Phelps, Tibberton, near Gloucester.
Second Prize (Bronze Medal): Herbert Hawkins, Brookthorpe Court, Gloucester.
Reserve: Cebert Geo. Ricketts, Gamage Hall, Dymock.

CLASS 6.—For the best managed orchard or plantation of fruit trees, planted since November, 1921, being not less than 2 acres.

(*a*) Bush Fruit only.

First Prize (Silver Medal): Humphrey T. Nott, Kyrewood, Tenbury.
Second Prize (Bronze Medal): Eardiston Farming Co. (1919), Ltd., Stockton, Worcester.

(*b*) Mainly Tree Fruits.

First Prize (Silver Medal): Overbury Orchards, Kemerton, near Tewkesbury.
Second Prize (Bronze Medal): William Henry Cleaver, Emscote, Warwick.
Reserve: F. Paget Norbury, Sherridge, Malvern.
V.H.C.: Cyril Vint, Home Fruit Farm, Drakes Broughton, Pershore.

CLASS 7.—For the best managed plantation of Strawberries of any age, being not less than 1 acre.

First Prize (Silver Medal): Capt. Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.
Second Prize (Bronze Medal): Misses M. A. and D. H. Pewtress, Tillington Fruit Farm, near Hereford.

Reserve : F. Paget Norbury, Sherridge, Malvern.
H C. : Overbury Orchards, Kemerton, near Tewkesbury.

CLASS 8.—For the best managed orchard or orchards composed wholly or mainly of Plum, Cherry or Damson trees on grass, being not less than 2 acres.

First Prize (*Silver Medal*) *:* Hilltop Fruit Farm, Ledbury.
Second Prize (*Bronze Medal*) *:* F. Paget Norbury, Sherridge, Malvern.

Note.—The Special Medal offered by the Society for the entry receiving highest number of points was awarded to Capt. Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.

Judging commenced on the afternoon of Sunday, June 15, and terminated on the morning of Friday, June 20.

The entries numbered 55 from 30 Holdings, of which 14 were in Worcester, 10 in Gloucester, 3 in Hereford, and 3 in Warwick. There were no entries from Shropshire. Four entries were scratched at the last moment so that the number of entries actually judged in the field was 51.

GENERAL NOTES.

INTRODUCTION.

The standard of performance required to get full marks was set very high. From the point of view of the judges, there were two main issues to be considered : first the probable net return from the entry over a period of years, and secondly, the price per acre that the entry would fetch if sold as a plantation or orchard as part of a going concern. Thus vigour and productiveness and the various management factors such as pruning and control of disease, etc., were regarded in their relation to present and future crops, and marks were taken off for neglect in these matters regardless of the general nature of the holding.

Another thing to be said in connection with this year's competition is that the incidence of caterpillar pests has been unusually high throughout the district, and that grass has been unusually difficult to keep under control.

SYSTEM OF PLANTING.

1. *Apples and Plums.*—We found in the course of the competition a good deal of evidence in support of the idea that apples and plums should not be interplanted.

In the first place, with regard to manuring, it would appear that the requirements of apples and plums differ in this respect.

In the second place, with regard to spraying, differential treatment is frequently required not only in the kind and strength of the spray used but also in the times of application.

Thirdly, in the matter of land cultivations, it is very often the case when apples and plums are interplanted that the apples need grassing down to check excessive growth, while the plums would benefit from continued cultivations.

2. *Apples and Bush Fruits.*—Here again, we consider that the same arguments against interplanting apply as in the case of apples and plums. In the case of black currants, for instance, if these are to be well grown they must be manured regularly and heavily with bulky organic manures, mainly nitrogenous in nature, a manuring programme which cannot be said to be ideal for successful apple culture.

In the matter of spraying again, we found a case of apples interplanted with black currants, variety Edina, where it had been impossible to give the early Lime Sulphur spraying to the apple trees for control of Scab because of the damage that would have been done to the tender leaf of the Edina black currant. This argument applies equally well in the case of the sulphur-shy varieties of gooseberries. We found also a case of red currants under bush apple trees where the cropping of the reds was alleged to have been seriously affected by the winter spraying of tar-oil given to the trees.

Lastly, different requirements of apples and bush fruits in the matter of cultivations do not need stressing. We found ample evidence to show that some growers of bush apple trees on dwarfing stocks are grubbing the bottom fruits in the plantations in order to experiment with sod-mulching and green manuring, and, where this was not the case, some advocates of clean cultivations were anxious to get rid of their under fruits in order to admit of tractor cultivations.

PRUNING AND SHAPE OF TREES.

With few exceptions, there appeared to be little systematic pruning carried out at the present time. Most of the trees, especially apples, were carrying too many main "leader" branches from the point of view of spraying and fruit-thinning.

GENERAL VIGOUR AND PRODUCTIVENESS.

On the whole, plums appeared to be more vigorous and productive than apples. This may have been due to the fact that apple trees were in most cases showing more damage from caterpillar than plums, and partly it may have been due to the fact that, in general, the management of apples seemed to be less efficient than the management of plums. But the main reason for the difference seemed to us to lie in the fact that plums seem to prosper naturally over a greater part of the district we visited.

FREEDOM FROM PESTS AND DISEASES.

We found a large amount of insect damage throughout the area, especially caterpillar. This was in places so severe as to destroy this season's crop and probably next season's crop also, and, in the case of young trees, to cripple them badly. With regard to this it seemed to us that altogether too much reliance had been placed by growers on the effectiveness of tar-oil sprays in killing the eggs of the winter moth. It has been calculated that not much more than 50 per cent. of the eggs of the winter moth were killed last winter by the tar-oil washes, although of course the percentage kill of vapourer moth, aphis, and sucker eggs was, generally speaking, entirely satisfactory. A most valuable demonstration in the value of grease-bands in reducing the damage from winter moth caterpillar was shown us on a farm in Warwickshire, where Mr. Nash, the horticultural advisory officer for the County, had carried out a demonstration.

With regard to other insect pests, we found comparatively little damage from apple and plum aphis, apple sucker, or vapourer moth, a fact which testifies to the revolution effected during the last ten years in the control of these pests by tar-oil washes. Apple Sawfly was epidemic in all the areas visited, and it was clear that this pest is rapidly spreading. Woolly aphis was common. We did not see much capsid bug damage, and found very little strawberry aphis. With regard to fungus diseases, apple scab was not very apparent, though in one or two places it looked as though it would soon be spreading where trees had not been sprayed. In some places apple mildew was bad and appeared to be actually checking the growth of the trees. On the whole, it seemed to us that spraying was not being carried out in an efficient manner. This was in most cases due, in our opinion, to lack of efficient spraying plant. Throughout the competition, good spraying is reflected in the marks.

LAND CULTIVATION.

On the whole, cultivations were good. We were impressed by the good work done by tractors especially when worked in conjunction with disc harrows where the nature of the soil permitted.

GRASS MANAGEMENT.

The practice of applying Basic Slag to grass orchards seemed to be common and in general a very good type of herbage prevailed. This was coarser than is found for instance in the grass orchards of East Kent, but the difference is due to the high rainfall of the West Midlands, and to the fact that so much of the grazing there is done by cattle. This year in most orchards the grass had got beyond control, and this gave the impression that they had been understocked.

SELECTION OF VARIETIES.

Apples.—Many orchards contained varieties which in our opinion cannot be considered as of much commercial value, e.g., Gascoyne's Scarlet and Court Pendu Plat. Whilst realising that such varieties have still a certain standing in local markets, we could not help thinking that the number of varieties should be limited to those of proved commercial merit.

Plums.—The varieties were mainly Victoria, Pershore, Early Rivers and Pershore Purple.

Cherries.—In our opinion many varieties commonly found such as Mumford and Black Oliver might be profitably replaced by such varieties as Napoleon, Roundel and Turk.

Black Currants.—Mostly Baldwin, of which a very good selection appears to be grown in this area.

Strawberries.—We were much impressed by the vigour of the Paxton plants shown in this competition.

PROTECTION OF TREES.

The prevailing custom in the West Midlands of stocking grass orchards with cattle has led, in this area, to a careful study of the subject of the protection of the tree from damage by cattle. We saw many types of tree-guards, varying in cost from 2*s.* to 7*s.* 6*d.* each. The most popular form of stake consisted of ordinary 2-in. quartering, either tarred or pitched, firmly fixed in the ground. The tree was usually fastened to this stake by means of a piece of old rubber hose-pipe. The tree-guard most commonly seen consisted of about a yard of 1-in. rabbit wire, 16 or 18 gauge, 6 ft. high. This was usually attached to the stake, and as an additional precaution, strands of barbed wire were often fastened to the outside of the guard, either vertically or in spiral coils. The obvious disadvantage of these tree-guards is that once the guard is in position, it is difficult if not impossible to remove the guard for the purpose of cleaning up the stem of the tree or for attaching a grease-band.

The "Walker Tree Guard" which appears to have been introduced in the neighbourhood of Gloucester some years ago, was so made as to allow the guard to be opened. In this case a long wire pin held the two edges of the tree-guard together, and could be taken out when necessary.

We saw very few of this form of guard, but a cheaper and simpler form known as the Gloucester County Council Tree Guard is now being widely used, and this deserves special mention. In this guard one edge of the wire is fastened to the stake by means of two or more wire staples. These are not driven home, but project about ¾ in. The other edge of the wire is then brought round the tree, hooked over the staples, and secured by passing a nail or stick through each of the staples.

These guards can be easily opened and closed. We understand that Mr. Hollingsworth, the Agricultural Organiser for Gloucestershire, has been instrumental in bringing this tree-guard to the notice of many growers in Gloucestershire.

CIDER AND PERRY ORCHARDS.

In the special class for cider and perry orchards, there were six entries. In general the orchards were fairly well cared for, though the crops were disappointing. We formed the opinion that grease-banding should be more generally carried out to prevent caterpillar damage, a pest which probably ruined the crop this year in a great number of orchards. Again, in the case of such profitable varieties as Kingston Black, a little more care in the pruning and spraying might help to keep down canker and secure more regular crops.

CONCLUSION.

In conclusion, we wish to tender our hearty thanks to all who entertained us on our travels, and in particular to Colonel and Mrs. E. V. V. Wheeler, and to Mr. and Mrs. F. Paget Norbury. We are also most grateful to Mr. E. C. Boughton of the N.F.U. Headquarters for arranging the route, and to the following gentlemen for invaluable help in finding the way from one entry to another :—

Mr. G. H. Nash, Horticultural Superintendent, Warwickshire.
Mr. R. C. Gaut, County Agricultural Organiser, Worcestershire.
Mr. G. H. Hollingsworth, County Agricultural Organiser, Glos.
Mr. J. Coombs, Horticultural Instructor, Glos.
Mr. A. J. Manning, Horticultural Superintendent, Hereford.

N. B. BAGENAL } *Judges.*
S. W. MOUNT }

REPORT OF THE COUNCIL TO THE ANNUAL GENERAL MEETING OF GOVERNORS AND MEMBERS OF THE SOCIETY,

HELD AT THE

ROYAL AGRICULTURAL HALL, ISLINGTON, LONDON, N.,
On WEDNESDAY, December 10, 1930, *at* 2.30 *p.m.*

Membership.

1. The Council have to report that the list of Governors and Members has undergone the following changes since the Annual General Meeting on December 11, 1929 :—24 new Governors

(including 5 transferred from the list of Members under Bye-law 9), and 458 new Members have joined the Society, and 1 Governor and 6 Members have been re-instated under Bye-law 14: whilst the deaths of 5 Life Governors, 10 Governors, 78 Life Members, and 222 Members have been reported. 12 Life Members and 13 Members have been struck off the books under Bye-law 12, owing to absence of addresses; 1 Governor and 150 Members under Bye-law 13, for arrears of subscription; 3 Governors and 367 Annual Members have resigned.

2. It is with regret that the Council have to record the passing, since their last Report, of four of their number—the Earl of Coventry, Sir Edward Curre, Bart., Mr. James Falconer, and Colonel Abel Henry Smith.

3. By the death of the Earl of Coventry the Society, early this year, lost one of its oldest supporters. Lord Coventry was born on May 9, 1838, the day on which the R.A.S.E., as the "English Agricultural Society," came into existence, and he had been associated with it for the long period of 67 years, during 45 of which he served as a member of its Governing Body. He filled the Presidential Chair in 1899, in which year the Annual Show took place at Maidstone; and, at the time of his death, his lordship was a Trustee of the Society. By show-goers he will be remembered as a breeder and consistent exhibitor in the classes for Hereford cattle.

4. Sir Edward Curre became a Member in 1888, and in 1917 was elected by the Monmouthshire Members to represent them on the Society's Governing Body. He remained a Councillor until his decease.

5. Mr. James Falconer joined the Society in 1903, and in December, 1905, was elected to the Council as the representative of the Division of Hampshire to fill a vacancy caused by the appointment of the late Earl of Northbrook as a Vice-President. Mr. Falconer served as a Member of the Chemical and Implement Committees, in the proceedings of both of which he always evinced the closest interest.

6. Colonel Abel Henry Smith, who was present at the Council meeting on November 5, was fatally injured in the hunting field on November 10. He joined the Society in 1906, and had served on the Council since 1928 as the representative of the Division of Hertfordshire.

7. On November 10 the Society sustained another loss in the sudden death of their Editor, Mr. Charles J. B. Macdonald, who also had been present at the last Council meeting. Mr. Macdonald, who was well known to many Members of the Society, was a practical farmer, an eminent Agricultural Journalist, and for many years occupied the position of Agricultural Correspondent of *The Times*. In 1923 he was elected an

honorary Life Governor of the Society in recognition of his services to Agriculture.

8. Amongst other Governors and Members whose loss by death the Society has to deplore are the Duke of Grafton, the Duke of Northumberland, K.G., the Earl of Balfour, K.G., O.M., the Earl of Buckinghamshire, the Countess of Coventry, the Earl of Kintore, the Earl of Radnor, the Earl of Sefton, G.C.V.O., Viscount Clifden, Viscount Gladstone, G.C.B., G.C.M.G., Lord Brotherton, Lord Dewar, Lord Hatherton, Lord Ernest J. Seymour, the Hon. Edward G. Strutt, C.H., Sir George Clifford, Bart., Colonel Sir Charles R. Forbes-Leith, Bart., Sir Francis V. Forster, Bart., Sir William Gordon-Cumming, Bart., Sir David Wilson, Bart., Major-General Sir Harold Tagart, K.C.M.G., C.B., D.S.O., Mr. A. T. H. Barnes, Mr. E. Edmund Barnes, Mr. T. Losco Bradley, Colonel Reginald Chandos-Pole, Mr. A. W. Cobbold, Major P. G. Craigie, C.B.. Mr. Guy Gilbey, Mr. W. J. Grant, Colonel Sidney J. Green, M.C., Mr. C. P. Hall, Mr. George Southby Hewitt, Brig-Gen. T. E, Hickman, C.B., D.S.O., Mr. James H. Ismay, Mr. Francis W, Jones, F.S.I., Major Clement O. E. Nicholson, Mr. Charles J. Phillips, Capt. R. Sheriffe, Mr. Martin H. Foquett Sutton, Mr. W. G. M. Townley and Mr. Jonas M. Webb.

Numbers on Register.

9. These and other changes bring the total number of Governors and Members on the Register to 10,940, divided as follows :—

159	Life Governors;
269	Annual Governors ;
1,887	Life Members ;
8,609	Annual Members ;
16	Honorary Members ;

10,940 Total number of Governors and Members, as against a total of 11,317 on the Register at the time of the last Annual Report.

Presidency.

10. The Council have decided to recommend to the Annual Meeting the election of Sir Arthur G. Hazlerigg, Bart., as President of the Society to hold office until the Annual Meeting in 1931.

Changes in the Council.

11. The Council have the pleasure to report that H.R.H. the Duke of Gloucester, K.G., has become a Trustee, to fill the vacancy created by the death of Lord Coventry.

Major-General Lord Treowen, C.B., C.M.G., has been elected to fill the vacancy on the Council in the representation of Monmouthshire caused by the death of Sir Edward Curre, Bart.

On his appointment as Governor-General of New Zealand Lord Bledisloe resigned his seat on the Council. This created a vacancy in the representation of Gloucestershire, which was filled by the election of Mr. Ernest F. Fieldhouse.

Elections to the Council.

12. The Members of Council retiring under the scheme of rotation at the forthcoming Annual Meeting are those representing the electoral districts of Group C, consisting of Berkshire, Cambridgeshire, Cumberland, Glamorgan, Gloucestershire, Huntingdonshire, Kent, Lincolnshire, Oxfordshire, Somerset, Sussex, Warwickshire, Westmorland, Yorkshire—E. Riding, Ireland, and North Wales.

Governors and Members registered in these districts have been communicated with, and the usual measures are being taken for the election or re-election of representatives for the divisions concerned.

Council Meetings in 1931.

13. For their meetings in 1931 the Council have fixed the following dates: February 4, March 4, April 1, May 6, June 3, July 8 (in Warwick showyard), July 29, November 4, December 9.

Accounts.

14. In compliance with the Bye-laws, the balance-sheet has to be presented for consideration at the Annual Meeting. The Council therefore beg to submit the balance-sheet, with Receipts and Payments for the year 1929. These Accounts were published in Vol. 90 of the JOURNAL issued to Governors and Members this year, having been certified as correct by the Professional Accountants and Auditors appointed by the Members. Copies of the Accounts will be available for reference at the Meeting on December 10.

New Lease of No. 16 Bedford Square.

15. The Lease of the premises now occupied by the Society as Offices will shortly expire, and the Council, in view of the changing conditions of property in the vicinity of Bedford Square, and the necessity of obtaining for the Society some security of tenure for future years, have had to consider whether it would be more expedient to vacate the premises and negotiate for another house, or take up a new Lease of the present Offices.

16. The Duke of Bedford, who is the Ground Landlord, upon being approached, agreed to grant a renewal of the existing Lease for a period of 21¼ years from Lady Day, 1930, at an Annual rental of £415, less 3½ per cent. on any Capital sum which may be expended on increasing the value of the premises.

17. Having regard to all the circumstances, the Council agreed to enter into a new Lease for the term and at the rent stated, as it was considered that the special terms offered by the Duke of Bedford were most advantageous.

18. Certain alterations have been carried out. The waiting-room has been converted from a "conservatory" to a more comfortable room, and a small office has been added adjoining the Council Chamber. It is hoped that with this additional accommodation the premises will suffice for the Society's requirements for many years to come.

Manchester Show.

19. The Society's 89th Annual Exhibition was held at Withington, Manchester, from July 8 to 12, on the same site as the Show of 1916. Although the Show opened on the Tuesday in drizzling rain which persisted for some hours, conditions improved in the afternoon, and the Judges were able to complete their tasks without serious interference. Good weather favoured the Show on the remaining four days.

20. In almost every section entries were fewer than at Harrogate in 1929; but, generally speaking, the standard of quality of exhibits was fully maintained. As usual, there were some empty stalls in the live-stock section, but the percentage of absentees was not so great as in some recent years, the country, happily, being free from foot and mouth disease. In the section devoted to implements, machinery, etc., the amount of shedding was less, but actually there were twelve more stands than in the previous year. The entries of produce were bigger, owing to increased entries of cheese.

21. H.R.H. the Duke of Gloucester (President), who travelled from London by air, arrived at the Show about 1 p.m. on the Tuesday, and, during the afternoon, with Lord Daresbury, made a tour of the ground, inspecting exhibits in several departments. On the Wednesday, His Royal Highness again visited the Show, presiding at a meeting of the Council and at the General Meeting of Governors and Members. At the latter meeting votes of thanks were passed to the Lord Mayor and Corporation of Manchester for their hospitable reception of the Society, and to the Local Committee for their exertions to promote the success of the Show.

22. The Gold Cup and Certificates awarded to the winning teams for Stock Judging in the competition of the National Association of Young Farmers' Clubs were presented by the President before the commencement of the Cattle Parade on this day.

23. During the five days the total attendance was 100,918, and the Accounts, it is anticipated, will disclose a surplus of receipts over expenditure.

24. The thanks of the Society are particularly due to Mr. J. Herbert Hall, one of the local Honorary Secretaries, who in very difficult times shouldered the work of local organisation. He had worked for some five years in his efforts to secure a site for the Show and promote its ultimate success. The death of the late Town Clerk of Manchester, Mr. Percy M. Heath, who was responsible for the issue of the invitation to the Society to hold the 1930 Show in that city, was keenly felt by the Local Committee, and this added considerably to the burden borne by Mr. Hall; but in spite of this loss he, ably assisted by Mr. F. E. Little, of the Town Clerk's staff, Mr. R. B. Neilson, and Mr. Alderman Davy, cheerfully carried on and must be congratulated upon the result of his long and strenuous labours.

25. The Royal Lancashire Agricultural Society withheld its Show and co-operated with the Local Committee and the Society. Special privileges were accorded to members of the Lancashire Society, and for these the Council of the latter body have forwarded a resolution of thanks and appreciation. It is pleasing to have to record the terms of goodwill existing between the two Societies and the Council and Officials.

World Agricultural Tractor Trials.

26. Previous to those which have just concluded, the last tractor trials by the R.A.S.E. were held in 1920. Since that time there had been no comprehensive display of tractors in this country, although considerable improvements had taken place in the types already on the market, and the tractor using crude oil as fuel had been developed. The time, therefore, was thought to be ripe for further trials. The suggestion was made in the early part of last year that the Society should organise such trials with the active co-operation of the Institute for Research in Agricultural Engineering, University of Oxford. It was further suggested that they should be carried out on somewhat different lines from previous trials, in that the tractors should undergo scientific tests *prior* to a public demonstration, so that if possible the results of the tests should be available at the demonstration.

27. The scope of the trials was comprehensive; they were thrown open to ordinary agricultural tractors, cable sets, and self-propelled cultivating machinery, any of which might be electrically driven. Although two cable sets were at first entered, these were afterwards withdrawn. Negotiations took place regarding the entry of an electric set, but this did not materialise.

28. The final Entry comprised 31 types of tractor, of which 3 were small power-driven-Market Garden Cultivators. Of the tractors 12 were of American origin, 8 British, 5 French, 4

German, 2 Swedish, 1 Irish, and 1 Hungarian; 2 of the small cultivators were British and the other Swiss. The 31 different makes of tractor comprised 12 using paraffin as a fuel, 10 using petrol and 9 crude oil. Twenty-three were of the wheel type, and the other 8 track-laying. The entries may be fairly regarded as representative.

29. Land in the neighbourhood of Wallingford was secured for the trials. The tests were carried out on this site, but owing to the restriction on the depth of ploughing, the public demonstration was transferred to Ardington, where Mr. A. T. Loyd kindly placed land at the disposal of the Committee.

30. The tests consisted of Belt Tests, Drawbar Tests and Field Tests and were carried out by the staff of the Institute of Agricultural Engineering. Each tractor had in all to be under test for a period of about 24 hours. The tests were commenced on June 2 and were completed on July 26. The programme was completed in a shorter period than had been anticipated, due to the favourable weather which prevailed for the greater part of the time, to general efficiency of the tractors and to the courtesy of the entrants, their representatives and operators, all of which made for a minimum loss of time.

31. The tests on the Market Garden Cultivators were, at the request of the entrants, confined to field work. These were carried out in May on market garden crops in the Evesham district, and covered a period of about 3 weeks.

32. Three tractors failed to complete the tests. One was withdrawn by the entrants owing to alteration of the firm's programme, and the other two suffered mechanical breakdown. They were, however, given the opportunity to appear at the public demonstration, and one of them did so.

33. At the conclusion of the tests a full report, giving specifications with complete and summarised results, was prepared and was published five days before the commencement of the public demonstration, at which it was on sale.

34. The work at the public demonstration was confined to ploughing; the weather was not very favourable, rain falling on three out of the four days. This necessitated a slight curtailment of the programme on the last day. In all about 300 acres were ploughed. The attendance was fairly satisfactory; visitors came from all parts of the country and from abroad. About 1,700 copies of the Report were sold on the demonstration ground and nearly the whole of the 3,000 copies printed have now been disposed of.

35. Full particulars of the machines entered and of the tests carried out are contained in the Official Report, which can be obtained from the Secretary.

Plantations and Nurseries.

36. Thirty entries were received in the competition this year for Plantations and Estate Nurseries in the counties of Somerset, Devon, and Cornwall. The Royal English Arboricultural Society's Gold Medal for the best Plantation was won by Mr. Alexander Fownes Luttrell, of Dunster Castle, Somerset. In the class for the best-managed Woodlands on an estate of not less than 1,000 acres the first prize (Special Silver Gilt Medal) was awarded to the Fortescue Estates Company, Castle Hill, Barnstaple.

37. The area of the competition for 1931 will comprise Shropshire, Staffordshire, Cheshire, and Lancashire—excluding the Furness and Ulverston Division.

Orchards and Fruit Plantations.

38. Confined to an area comprising Herefordshire, Worcestershare, Gloucestershire, Warwickshire, and Shropshire, the Orchards and Fruit Plantations competition this year attracted fifty-six entries. The Special Medal for the entry receiving the highest number of points was awarded to Captain Eric Gordon Hutton, Winthill Farm, Cradley, Malvern.

39. Next year's competition will be confined to the counties of Cambridge (excluding the Isle of Ely), Suffolk, Essex, Huntingdon, Bedford, Hertford, and Middlesex.

Awards for Long Service.

40. Bronze Medals and Certificates were again this year offered as awards to farm servants for Long Service, in the county of Lancashire. Claims on behalf of farm servants for consideration in connection with these awards must be made through the Royal Lancashire Agricultural Society before the end of the year.

Next year the awards will be thrown open to the whole of England and Wales.

Royal Show Film.

41. Through the good offices of Messrs. Cooper, McDougall & Robertson, Ltd., copies of the film mentioned in last year's Report, with the addition of a letterpress reference to the Manchester Show, were, in the early part of the year, exhibited on the steamships of the Royal Mail Steam Packet Co.

Next Year's Show.

42. As already announced, the Society's Ninetieth Annual Exhibition will take place in the Lower Park of Warwick Castle, from Tuesday, July 7, to Saturday, July 11.

Prize List.

43. The Prize List for the 1931 Show will, with certain alterations, be similar to that for the Manchester Show. Offers of

Champion and other prizes have been received from the following:—Shire Horse Society, Clydesdale Horse Society, Suffolk Horse Society, British Percheron Horse Society, Hunters' Improvement and National Light Horse Breeding Society, National Pony Society, Shetland Pony Stud Book Society, Shorthorn Society, Hereford Herd Book Society, Devon Cattle Breeders' Society, Sussex Herd Book Society, Sussex Cattle Breeders' Society of South Africa, Welsh Black Cattle Society, Longhorn Cattle Society, Aberdeen-Angus Cattle Society, English Aberdeen-Angus Cattle Association, Argentine Aberdeen-Angus Association, Dun and Belted Galloway Cattle Breeders' Association, Galloway Cattle Society, Dairy Shorthorn Association, Lincolnshire Red Shorthorn Association, South Devon Herd Book Society, Red Poll Cattle Society, Blue Albion Cattle Society, British Friesian Cattle Society, Ayrshire Cattle Herd Book Society, English Guernsey Cattle Society, English Jersey Cattle Society, British Kerry Cattle Society, Dexter Cattle Society, Co-operative Wholesale Society, Oxford Down Sheep Breeders' Association, Shropshire Sheep Breeders' Association, Southdown Sheep Society, Hampshire Down Sheep Breeders' Association, Suffolk Sheep Society, Dorset Down Sheep Breeders' Association, Dorset Horn Sheep Breeders' Association, Wiltshire or Western Horn Sheep Society, Ryeland Flock Book Society, Kerry Hill (Wales) Flock Book Society, Clun Forest Sheep Breeders' Association, Lincoln Longwool Sheep Breeders' Association, Leicester Sheep Breeders' Association, Society of Border Leicester Sheep Breeders, Wensleydale Longwool Sheep Breeders' Association, Kent or Romney Marsh Sheep Breeders' Association, South Devon Flock Book Association, Welsh Mountain Sheep Flock Book Society, Black Welsh Mountain Sheep Breeders' Association, National Pig Breeders' Association, Large Black Pig Society, Gloucestershire Old Spots Pig Society, Cumberland Pig Society, Essex Pig Society, National Long White Lop-Eared Pig Society.

Special Prizes are being offered in the Poultry section by the Dorking Club, Sussex Poultry Club, Columbian Wyandotte Club, British Barnevelder Club, British Black Barnevelder Club, and Campine Club.

Closing of Entries.

44. Intending exhibitors at Warwick are reminded that the final date for receiving entries of horses, cattle, goats, sheep, pigs and produce is MAY 20, and no substituted entries will be permitted. Entries of Poultry close on May 30.

Applications for space in the Implement, etc., Department must be made not later than March 20.

Entries of New Implements for the Society's Silver Medal must be made by March 2.

Schedules and entry forms will be ready for issue in the New Year. To prevent disappointment, Members are particularly requested to make early application.

Future Shows.

45. A site at North Stoneham Park, in close proximity to Southampton, has now been secured, and the Show of 1932 will be held there.

If a site can be obtained and facilities afforded, the Eastern Counties may be visited in the year 1933.

Railway Concession.

46. As a result of a deputation to the Railway Clearing House, which included delegates from the Society, the Council are able to report a concession to be granted to members, exhibitors, directors and managers of firms attending the Show, under which the availability of the reduced fare ticket will in future be for *three* days before and *three* days after the Show, instead of only *one* day as heretofore. This change will be appreciated by exhibitors who find it necessary to travel by rail in the week before the Show.

Showing of Certified or Grade A (T.T.) Cattle.

47. A conference convened by the Society of representatives of Agricultural Show-promoting Societies and Cattle Breed Societies was held on October 6. In March last the Minister of Health had issued a circular letter informing owners of Licensed Certified, and Grade A (T.T.) Herds that the provisions of the Milk Designations Order of 1923 would now be enforced, and unless, amongst other things, Show organisers were prepared to provide special accommodation for cattle from these herds at least 30 yards away from other stock, holders of licences must not exhibit cattle from their herds at Shows. A deputation to the Minister of representatives of the Society, the Bath and West and Southern Counties Society, and the British Dairy Farmers' Association, failed to secure from him any alteration of the terms of his circular letter, although, later on, in reply to a question in the House of Commons on May 21, the Minister stated that an animal might be exhibited at Shows providing it was isolated afterwards, re-tested and passed such test before again taking its place in the Licensed Herd.

48. At the conference it was agreed that the same conditions did not apply to all Shows. Lesser and short-date Shows with small entries might find no difficulty in providing special accommodation for animals from Licensed Herds, but larger Shows of 4 or 5 days' duration with big entries of all breeds could not

make the requisite provision. The general opinion was that no further action could be taken at this time; but, as there appeared to be some uncertainty, or lack of knowledge, of the precise terms upon which animals from Licensed Herds could be exhibited at Shows, the Minister of Health should be requested to circularise all Show Societies, Cattle Breed Societies and Licensees of T.T. Herds, stating exactly the conditions now required by his Department in view of his answer in the House of Commons on May 21.

Judges at South American Shows.

49. The Rural Society of Argentina continued their custom of seeking, through the Council of the Royal Agricultural Society, the assistance of British stockbreeders to act as judges at the Palermo Show. This year's panel included:

Shorthorn Cattle.—Mr. K. P. MacGillivray, Kirkton, Bunchrew, Inverness-shire.
Hereford Cattle and Swine.—Mr. H. R. Griffiths, Little Tarrington, Hereford.
Aberdeen-Angus Cattle.—Colonel Harry Forbes, D.S.O., Montgarrie House, Alford, Aberdeenshire.
Lincoln, Romney Marsh and other Breeds of Sheep.—Mr. J. Egerton Quested, The Firs, Cheriton, Folkestone.

Mr. MacGillivray and Mr. Griffiths also officiated at the Show of the Rural Association of Uruguay.

Presentation to Lord Daresbury.

50. Upon his retirement from the Honorary Directorship of the Royal Show after a period of 25 years it has been decided to mark the appreciation of the Society of the inestimable services rendered by Lord Daresbury by a suitable presentation. Contributions to the fund (limited to one guinea) were therefore invited from Governors and Members past and present, exhibitors, and all those who have had the good fortune to be associated with him in the long series of Shows which have covered every part of the country.

The presentation will be made at the General Meeting of Members during Smithfield Week.

Blended Butter.

51. In March last Sir Douglas Newton drew the attention of the Council to the prevalent and growing practice of blending butter. Such blended butter was sold under various proprietary names and labels which led the public to believe they were purchasing English butter. The matter was considered by the

Dairy Committee and a Resolution was sent to the Ministry of Agriculture in the following terms:—

"The Council is strongly of opinion that the Ministry of Agriculture should take immediate action to prevent the sale of butter under labels which tend to deceive the consumer, and thus conserve the interests of the home producer."

In April the opinion was expressed that the Society should be represented on any Committee which may be set up to advise the Government on the question of the sale of blended butters either by a voluntary scheme of grading and marketing of British and Empire butters or otherwise, and Mr. Wm. Burkitt, Sir Douglas Newton and Dr. Stenhouse Williams were appointed by the Council to serve upon such a Committee.

In May a conference was convened by the Royal Empire Society of various organisations interested, and Sir Douglas Newton and Sir Archibald Weigall were appointed to represent the Society on the Sub-Committee dealing with the question of the marking of Blended Butter. A draft of the suggested application for a Marking Order was received from the Butter Marking Committee of the Royal Empire Society in July, and the Council decided to give their support to the intended application. Dr. Stenhouse Williams will represent the Society at the hearing of the application.

Chemical Department.

52. The Laboratory has been made use of by members to much the same extent as in the previous year, 150 samples having been submitted as against 170 in 1929. Several matters of special importance to the farming community have engaged the attention of the Chemical Committee. One of these is the definition of "barley meal." The Society has, by the periodical reports of its Council and by deputation to the Minister of Agriculture, sought to obtain a better understanding as to what is meant by the definition "commercially pure, as grown," as set out in the Fertilisers and Feeding Stuffs Act, 1926, and applied to barley used for grinding into barley meal. Ultimately, a legal decision on the point was given on July 30 last, according to which the term shall only apply to barley "containing not more than 4 per cent. of total impurities." It is satisfactory to record this decision, after much agitating; it is a decision which, moreover, is both fair and reasonable.

53. The constitution of the Advisory Committee of the Ministry of Agriculture on the Fertilisers and Feeding Stuffs Act, as being not adequately representative of agricultural interests, has likewise been the subject of correspondence between the Society and the Ministry.

54. The occurrence of castor seed in feeding stuffs has again

come to the front, and cases of illness and death of stock consequent on the presence of this poisonous seed have been reported.

55. Prices of both fertilisers and feeding stuffs have continued favourable to the purchaser, and, there having been but little change in this respect, the Table of Unexhausted Manure Values remains unaltered.

56. Other matters dealt with in the Consulting Chemist's report are the continuous coming to hand of deliveries of Peruvian Guano of high quality, "Chilian" peas, drinking waters, sewage effluents, etc.

57. The Chemical Committee greatly regret the death of Mr. James Falconer, one of their number, who had always shown a marked interest in their work and in that of the Woburn Experimental Farm.

Botanical Department.

58. During 1929–30 there was a falling off in the number of enquiries received in the Botanical Department. The only branch of the subject it deals with which was not affected in this way was that of fungoid diseases of plants. This showed a small increase owing to an unusually large number of enquiries concerning the diseases occurring in fruit plantations. Grassland enquiries were slightly less numerous than in the previous year. The demand for seed-testing remained at the low level of recent years. The main fall occurred in the section dealing with cereals and the crops of arable land as a whole.

Zoological Department.

59. The pests concerning which advice has been given during the past year have been for the most part well-known insects, but the enquiries indicate that there are certain attacks which have been unusually severe. Of these the most important were winter-moth on fruit trees, chafer grubs at the roots of various crops, and turnip-fly on root crops. The corn-flies were less destructive than in many recent years, and, where present, their injury was slight in comparison with the damage done by adverse weather influences.

60. A considerable part of the work of the department has been the examination of animal parasites and insects infesting stored products sent for identification. Numerous samples of bees were examined to ascertain whether they were infested by the bee-mite.

61. The experiments on the treatment of warbled cattle have been continued on the University Farm, where the recommendations of the Warble Fly Committee set up by the Leathersellers' Company were followed and various derris compounds employed on the whole very successfully.

Animal Diseases.

62. The figures in the returns of the notifiable diseases for the first ten months of the present year compare favourably with those of the same period of 1929. Glanders continued to be non-existent, while cases of Anthrax, Parasitic Mange, and Sheep Scab showed a decrease, the outbreaks of the last-mentioned being the lowest recorded for several years.

63. From December 23, 1929, Great Britain had been entirely free from Foot and Mouth Disease until September 6, when the existence of the disease was confirmed in piggeries at Holbeck, in the West Riding of Yorkshire. On the following day, two additional outbreaks were confirmed in the same locality. Further outbreaks were discovered at Pirbright, Surrey, on September 15, at Stokesley, Yorks—North Riding, on September 20 and 28, and at Huddersfield on November 10.

64. Following the earliest of these outbreaks, an Order was issued by the Ministry of Agriculture which marked a change in their policy concerning Foot and Mouth Disease. This Order provides that

> " The Minister may, for the purpose of preventing the spread of Foot and Mouth Disease, treat with serum, as often as may be in his opinion necessary, any animals which have been in contact with animals affected with Foot and Mouth Disease, or which have, in his opinion, been exposed to the danger of infection of that disease."

65. As recorded in the last Report, there was a considerable increase in 1929, as compared with 1928, in the outbreaks of Swine Fever. For the first three quarters of the present year the figures were again higher than for the corresponding period of 1929. During October, however, there was such a decrease in the number of outbreaks as compared with the corresponding period of last year as to make the aggregate for the 10 months less than for 1929. Suffolk, Lancashire and the West Riding of Yorkshire have had the most outbreaks, but the disease has been prevalent throughout the whole country.

Eleventh International Veterinary Congress.

66. Sir Merrik Burrell (Chairman of the Society's Veterinary Committee) and Mr. Frank P. Matthews represented the Society at the Eleventh International Veterinary Congress held in London from August 4th to 9th.

Quarantine Station.

67. During the second year's operations, ending March 31 last, the following stock has been exported to the Dominions and Colonies named, after passing through the London Quarantine Station :

	Cattle	*Sheep*	*Pigs*	*Goats*	*Total.*
Australia . . .	156	132	59	—	347
New Zealand via Australia	—	8	—	—	8
Tasmania	—	1	—	—	1
South Africa . .	111	29	24	1	165
Southern Rhodesia .	38	—	10	—	48
Northern Rhodesia .	3	—	—	—	3
Northern Nigeria .	—	2	—	—	2
South-West Africa .	24	—	—	—	24
Irish Free State . .	49	20	16	—	85
Palestine . . .	1	—	—	4	5
Cyprus . . .	2	—	—	—	2
Trinidad . . .	3	—	—	—	3
Total, year ending March 31, 1930 .	387	192	109	5	693
Total numbers exported during previous year ending March 31, 1929	347	126	60	10	543
	734	318	169	15	1,236

which shows an increase of 150 animals exported over the corresponding period of last year.

68. In the first six months of the third year commencing April 1, 1930, the following stock has been exported through the medium of the Quarantine Station:

32nd Period, commencing April 21 . . .	14 Cattle 9 Sheep 2 Goats	Australia, Tasmania, and Gold Coast.
	25	
33rd Period, May 21 . . .	19 Cattle 54 Sheep 11 Pigs	South Africa, Southern Rhodesia and Australia.
	84	
34th Period, July 22 . . .	13 Cattle 32 Sheep 27 Pigs	Irish Free State and Gold Coast.
	72	
35th Period, August 4 . . .	12 Cattle 3 Sheep	South Africa.
	15	
36th Period, September 2 . .	18 Cattle 19 Sheep 6 Pigs	Australia, Tasmania, Southern Rhodesia, Antigua, and South Africa.
	43	

37th Period, October 3 . . .	18 Cattle 52 Sheep 2 Goats	Southern Rhodesia, Australia, Tasmania, South Africa and Palestine.
	72	

a total of 311 animals for the six months. Quarantine periods have been fixed up to the end of the year, in connection with shipments to Australia and South Africa, etc., and special periods will be fixed early in the New Year for the annual requirements of the Southern Rhodesian Government, under the Empire Marketing Board's Scheme.

69. In the 15 Quarantine periods fixed during the calendar year, on 9 occasions the Station was filled to capacity, whilst the smallest number of animals which entered in any one period was 21.

70. The large consignments which were awaiting exportation when the respective Dominions and Colonies accepted the Quarantine Scheme have been shipped, and exporters are being occasioned no delay in the entry of stock into the Quarantine Station. Quarantine periods are being fixed so far ahead, where the Steamship Companies can assign definite sailings, that exporters have ample time to make their purchases and arrange shipment in connection with any particular sailing.

71. The Station has again proved capable of accommodating all stock offered at any time. In many cases the steamers cannot accept all the animals that could be accommodated in the Station. The policy of accepting stock in one period for export to more than one Dominion, has been continued with success, and generally clears the market of any stock requiring early shipment.

72. The administration and general working of the Quarantine Station continues to run smoothly. The administration charges show a further reduction; the net cost for the past year, to the Empire Marketing Board after accounting for all receipts and expenditure, is about £875, which includes the amount payable to the Ministry for Inspection fees. The above amount compares very favourably with that for the previous year of £1,010, and results in an appreciable saving on the estimated annual grant from the Empire Marketing Board.

73. The Irish Free State intimated some time ago that they did not propose to utilise the Quarantine Station further, unless the position in regard to Foot and Mouth Disease—England and Scotland having then been free for several months—warranted a change of policy.

74. The Australian Government has issued a proclamation that all cattle destined for that Dominion must pass the Double

Intradermal test for Tuberculosis, and the South African Government now require all cattle for the Union to be subjected to and pass the serological test for Contagious Abortion, the arrangements for which will be carried out by the Ministry of Agriculture and Fisheries.

75. Further slight amendments have been made to the quarantine regulations and forms of application, and have been embodied in the reprints.

76. Canada and New Zealand still remain the two most important outstanding Dominions which have not taken advantage of the Quarantine Station scheme, but one or two consignments of sheep have been sent through the Station, to Australia, for transhipment to New Zealand, after undergoing a period of detention in the former Dominion.

Research Committee.

77. Included in Vol. 90 of the *Journal* issued to Governors and Members last May was a report on the work of the Research Committee in 1929, together with reports on Grassland Improvement Trials at Shoby, Leicestershire, and on Bullock Feeding with Sugar Beet Tops and Pulp. The last-named is a summary of three years' work carried out for the Committee on the farm of the Norfolk Agricultural Station.

78. The investigation of Bovine Mastitis is making progress at the Research Institute in Animal Pathology; Barley research has been continued and has been brought to a conclusion at the Norfolk Agricultural Station; field trials in connection with the Inoculation of Lucerne have been carried on at various centres under the supervision of the Rothamsted Experimental Station. The business of preparing and selling cultures for the inoculation of Lucerne Seed has now been entrusted to Messrs. Allen & Hanburys, Ltd., who have sold in the first year sufficient to inoculate nearly 4,000 acres of land.

Chicken-rearing experiments are being carried out for the Committee at the South-eastern Agricultural College, Wye, Kent, to compare the results of feeding separated milk to growing birds with those obtained by the use of other dairy by-products.

79. The work of assembling and checking the available data referring to the Woburn Experimental Plots is proceeding at Rothamsted, and is already showing valuable results.

"Agricultural Research in 1929."

80. The fifth volume of *Agricultural Research* has been printed; and, as usual, copies are being sent with this Annual Report to those who have expressed a wish to have it. This instructive volume is free to Governors and Members, and is obtainable by non-members from the Secretary, or from the

Publisher (John Murray, 50A Albemarle Street, W.), 1*s.* 3*d.*, post free. A limited number of copies of the earlier volumes are still obtainable.

In the volume to be issued in 1931 it is proposed to include an additional article, on the results of Research in Animal Genetics by Dr. Crew.

Medal for Research.

81. A Silver Medal and money or books to the value of £10 were again offered by the Research Committee this year for a monograph or essay giving evidence of original research on the part of the candidate on any agricultural subject, on any of the cognate agricultural sciences, or on agricultural economics. Candidates must reside in Great Britain or Ireland, and must not be more than 30 years of age. The last date for receiving monographs or essays was October 31.

82. The medal offered last year was awarded to Mr. A. W. Greenhill, of Beechwood, Harrow Lane, Maidenhead, for his work on "The Availability of Phosphatic Fertilisers as shown by an examination of the Soil Solution and of Plant Growth."

"Queen Victoria Gifts."

83. Including this year's grant, a sum of £3,680 has been paid over by the Trustees of the Queen Victoria Gifts Fund to the Royal Agricultural Benevolent Institution since 1906. For the present year the Trustees of the Fund made a grant of £180 to be devoted to gifts to candidates as below, the distribution in each class to be left until after the election to pensions by the Royal Agricultural Benevolent Institution:—

Male Candidate.—Six gifts of £10 each.
Married Couples.—Three gifts of £20 each.
Female Candidates.—Six gifts of £10 each.

Medals for Cattle Pathology.

84. In the annual examination for the Society's prizes held at the Royal Veterinary College, the Silver Medal was won by Mr. N. P. Male, of Westcroft, Earley, Reading, and the Bronze Medal by Mr. J. L. Buckingham, of Edgehurst, Station Road, Harleston, Norfolk. The examination was conducted by the Professors of the College, and comprised written and oral work in the diseases of cattle, sheep, and swine.

National Diploma in Agriculture.

85. Forty-eight candidates were successful in obtaining the National Diploma in Agriculture at the thirty-first Examination held this year at Leeds from April 8 to 16. See list on pages 303–305.

National Diploma in Dairying.

86. The thirty-fifth Annual Examination for the National Diploma in Dairying took place in September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Kilmarnock, for Scottish students. Forty-seven candidates were examined at the English centre, of whom twenty-nine were awarded the Diploma—one with Honours; and fifty-nine presented themselves at the Scottish Centre, of whom twenty-four obtained the Diploma. The names of the successful candidates will be found on pages 307 and 308.

German Agricultural Society.

87. An Invitation to visit the Annual Show of the above society at Cologne was extended to Members of the Council. This was taken advantage of by Sir Douglas Newton and Mr. R. Borlase Matthews, who, at the Council Meeting in July, expressed their pleasure at having attended and the interest the Show afforded them, whilst at the same time voicing their appreciation of the hospitality, courtesy and assistance rendered to them by the German Agricultural Society.

By Order of the Council,

T. B. TURNER,
Secretary.

16 Bedford Square,
London, W.C.1.

NATIONAL AGRICULTURAL EXAMINATION BOARD.

Appointed by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland.

REPORT ON THE RESULTS OF THE THIRTY-FIRST EXAMINATION FOR THE NATIONAL DIPLOMA IN AGRICULTURE.

HELD AT LEEDS, APRIL 8 TO 16, 1930.

1. The Thirty-first Examination for the NATIONAL DIPLOMA IN AGRICULTURE was, by the courtesy of the authorities, held at the University of Leeds, from the 8th to the 16th April last.

2. The subjects of Examination were Practical Agriculture (two papers), Farm Machinery and Implements, Land Surveying and Farm Buildings, Agricultural Chemistry, Agricultural

Botany, Agricultural Book-keeping, Agricultural Zoology, and Veterinary Science and Hygiene. The whole nine papers could be taken at one time, or a group of any three, four or five in one year and the remaining group at one examination within the next two years. Candidates taking the whole Examination in one year who failed in not more than three subjects, and candidates taking a second group who failed in not more than two subjects, were allowed to appear again for those subjects only next year. Candidates failing in one or two subjects of a first group of not less than four, or in a single subject of a group of three, were permitted to take those subjects again in conjunction with the second group.

All candidates, before sitting for the Practical Agriculture and Farm Machinery and Implements papers, had to produce evidence of possessing a practical knowledge of Agriculture obtained by residence on a farm for a period or periods (not more than two) covering a complete year of farming operations.

3. The Examiners in the different subjects were:

PRACTICAL AGRICULTURE (First Paper, 400 Marks. Second Paper, 400 Marks), William Bruce, M.A., B.Sc., R. H. Evans, B.Sc., and J. R. Bond, M.B.E., M.Sc., N.D.A. (Hons.); FARM MACHINERY AND IMPLEMENTS (300 Marks), Prof. R. Stanfield, M.Inst.C.E.; LAND SURVEYING AND FARM BUILDINGS (100 Marks), Robert Cobb, F.S.I.; AGRICULTURAL CHEMISTRY (200 Marks), S. Allinson Woodhead, D.Sc., F.I.C.; AGRICULTURAL BOTANY (200 Marks), Prof. John Percival, M.A., Sc.D.; AGRICULTURAL BOOK-KEEPING (200 Marks), James Wyllie, B.Sc., N.D.A. (Hons.), N.D.D.; AGRICULTURAL ZOOLOGY (100 Marks), R. Stewart MacDougall, M.A., D.Sc.; and VETERINARY SCIENCE AND HYGIENE (200 Marks), A. C. Duncan, F.R.C.V.S.

4. One hundred and forty-six candidates presented themselves, as compared with 148 last year. Six candidates took the whole Examination, 80 who had previously passed in certain subjects appeared for the remaining portion, and the other 60 candidates came up for a first group of subjects.

5. Forty-eight candidates were successful in obtaining the Diploma, the first two reaching the Honours standard. The names of the ordinary Diploma-winners are in alphabetical order.

Diploma with Honours.

1st, THOMAS ERNEST MILLER, University of Leeds.

2nd, HUGH MCFADZEAN, Glasgow University and West of Scotland Agricultural College.

Diploma.

JAMES RICHARD BARROWMAN, Glasgow University and West of Scotland Agricultural College.

GRENVILLE RAYMOND HUGH BISHOP, Midland Agricultural College, Sutton Bonington, Loughborough.

MILES SWINBURNE BLAIR, University of Leeds.

JOSEPH COBBALD BLOSSOM, Glasgow University and West of Scotland Agricultural College.

Freda Wright Brooks, University of Reading.
Alexander Stewart Chapman, West of Scotland Agricultural College.
Andrew Nairn Christie, Midland Agricultural College.
Lewis Charles Couch, Seale Hayne Agricultural College, Newton Abbot, Devon.
Rhydderch Braichfras David, University College of Wales, Aberystwyth.
John William Egdell, Armstrong College, Newcastle-upon-Tyne.
John Latimer Ferguson, Armstrong College.
Oliver William Groves, South-Eastern Agricultural College, Wye, Kent.
William Francis Heathfield, East Anglian Institute of Agriculture, Chelmsford.
Donald Stewart Hendrie, Glasgow University and West of Scotland Agricultural College.
Thomas George Hendy, Seale Hayne Agricultural College.
Philip Stanley Hesketh, Armstrong College.
John Wilfred Hewison, University of Reading.
George Harold Houghton, Midland Agricultural College.
Colin Jones, Seale Hayne Agricultural College.
David Maldwyn Jones, University College of Wales, Aberystwyth.
Owen John Jones, University College of North Wales, Bangor.
John Lawson, Midland Agricultural College.
George Edward Limb, University of Leeds.
Ian Aldborough Caulfield Lloyd-Williams, Seale Hayne Agricultural College.
Thomas Hetherington Lunson, Armstrong College.
William Lazonby Messenger, Armstrong College.
Henry Montgomery, Junr., West of Scotland Agricultural College.
Nathaniel Nicholson, University of Reading.
John O'Loan, College of Science, Dublin.
John Richard Owen, University College of North Wales, Bangor.
John Fletcher Percival, University of Leeds.
William Pile, Armstrong College.
Robert Rendall Pottinger, Harper Adams Agricultural College, Newport, Salop.
Robert Symmonds Price, Glasgow University and West of Scotland Agricultural College.
Alfred Qvist, University of Reading.
Alexander Whyte Renfrew, West of Scotland Agricultural College.
Edwin Winston Stanley Rowe, Seale Hayne Agricultural College.
Douglas Fraser Ruston, University of Leeds.
Francis George Thomas Sanders, Seale Hayne Agricultural College.
Reginald Scott, Midland Agricultural College.
Harry William Simmons, East Anglian Institute of Agriculture.
Bernard Lake Smith, Seale Hayne Agricultural College.
Newton Rattcliff Steel, Seale Hayne Agricultural College.
Thomas Fraser Stoddart, West of Scotland Agricultural College.
Marjorie Lydia Tanner, East Anglian Institute of Agriculture.
Thomas Williamson, Armstrong College.

6. Three of the candidates appearing for the whole Examination failed in not more than three subjects, and 21 of those taking a second group of subjects failed in not more than two. These will be permitted next year to take again the subjects in which they failed.

7. Of the 60 candidates appearing for a first group of subjects, the following 31 succeeded in passing, and will therefore be permitted, subject to the Regulations, to take the second group in 1931 or 1932:

ROBERT HUGH BROWNE, Midland Agricultural College.
DAVID ROBERT BROWNING, University of Reading.
GORDON DICK CALDER, West of Scotland Agricultural College.
COLIN HARRISON CAMPBELL, West of Scotland Agricultural College.
WILLIAM CHAMBERS, West of Scotland Agricultural College.
JOHN HEYWOOD COCK, Seale Hayne Agricultural College.
THOMAS DAWSON, Armstrong College.
ROGER BERTHOLD FERRO, University of Leeds.
NORAH OAKES FREETH, University of Reading.
MERVYN NETTLETON HICKS, Seale Hayne Agricultural College.
ARTHUR FRANK JOHNSON, University of Leeds.
LESLIE ROY KILLIK, Seale Hayne Agricultural College.
JAMES KIRKBRIDE, Armstrong College.
WALTER KNOX MACFARLANE, Glasgow University and West of Scotland Agricultural College.
ALASDAIR HUGH MACKINNON, West of Scotland Agricultural College.
ALEXANDER CAMPBELL MCMILLAN, West of Scotland Agricultural College.
ALEX. GIBSON MALCOLM, West of Scotland Agricultural College.
WILLIAM BARKER MITCHELL, Armstrong College.
LEWIS TREVOR MORRIS, Armstrong College.
THOMAS MURDOCH, West of Scotland Agricultural College.
WILLIAM HOSKEN PARKER, Harper Adams Agricultural College.
STEWART NORTON PARKIN, Seale Hayne Agricultural College.
JAMES STEEL PATERSON, West of Scotland Agricultural College.
HECTOR SUTHERLAND PEARSON, West of Scotland Agricultural College.
DONALD EDWIN RALPH, University College of Wales, Aberystwyth.
WILLIAM FREDERICK SPENCER, University of Reading.
WILLIAM PARK STRANG, University of Reading.
JAMES MURRAY THOMSON, West of Scotland Agricultural College.
FRANCIS TIZZARD, Seale Hayne Agricultural College.
RAYMOND HERBERT WEEKS, University of Reading.
ROBERT WILLIAM WOODS, Seale Hayne Agricultural College.

8. Twenty-four of the unsuccessful candidates sitting for a first group failed in one or two subjects, which they will be allowed to take again in conjunction with the second group in 1931 or 1932.

9. The thanks of the Board are again due to the authorities of the University of Leeds, for their liberality and courtesy in placing the Great Hall and other rooms of the University at the Board's disposal for the Examination; and to the Examiners, for the care and attention they bestowed upon the written answers to the papers set, and upon the *vivâ-voce* examination.

F. J. CARRUTHERS,
Chairman.

16 Bedford Square, London, W.C.1.
April, 1930.

REPORT ON THE RESULTS OF THE THIRTY-FIFTH EXAMINATION FOR THE NATIONAL DIPLOMA IN DAIRYING, 1930.

1. The second Examination under the auspices of the newly-constituted Board—and the Thirty-fifth Annual Examination for the National Diploma in Dairying—was, by the courtesy of the Authorities, held during September at The University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Kilmarnock, for Scottish students.

2. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate was required to produce :—(1) A certificate testifying that he or she had attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution ; (2) Evidence that he or she had spent at least six months on an approved Dairy Farm and taken part in the work

A candidate who had already taken a Degree in Agriculture of a British University or a Diploma in Agriculture recognised by the Board, could enter for the Examination after one year's subsequent training at an approved Dairy Training Institution, providing that such course included at least six months' training in practical dairy work, and that he or she had worked for at least six months on an approved Dairy Farm.

3. A new regulation was introduced under which a candidate who, having passed in the practical examination, failed in not more than two subjects of the written examination, might, at the discretion of the Board, appear for those subjects in the following year. A candidate who failed in three or more subjects of the written examination, or in any part of the practical examination, failed in the whole examination.

4. The written Examination included papers on Dairy Farming, Dairy Hygiene, Principles of Dairying, Dairy Factory Management and Dairy Engineering, Chemistry and Physics, Dairy Bacteriology, and Dairy Bookkeeping. The Practical Examination comprised Hard-pressed, Blue-veined, and Soft Cheese-making, and Butter-making.

5. At both Centres the same Questions were answered by the candidates from September 4 to 6. The Practical Examination as well as the *vivâ voce* was conducted at the English Centre from September 8 to 11, and at the Scottish Centre from September 15 to 20.

6. Of the 47 candidates who presented themselves at the English Centre six had passed in Practical Work last year, and

they were not re-examined in this portion. Twenty-nine candidates were successful in passing, one reaching the Honours standard. The names of the Diploma-winners are in alphabetical order :—

ENGLISH CENTRE.

Diploma with Honours.

URSULA AGNES PHYLLIS GROVES, The University and British Dairy Institute, Reading.

Diploma.

MARGARET FRANCES CHAPMAN, East Anglian Institute of Agriculture, Chelmsford.
MARY ELIZABETH COX, The University and British Dairy Institute, Reading.
FLORENCE GWENDOLEN CROSTHWAITE, The College, Studley, Warwickshire.
ANNIE DAVIES, University College of Wales, Aberystwyth.
KATHLEEN FRANCES VICTORIA DUNNING, Lancashire County Council Dairy School, Hutton, Preston.
EDITH A. HARRIOTT, The University and British Dairy Institute, Reading.
BENJAMIN HENRY HARVEY, East Anglian Institute of Agriculture, Chelmsford.
ALAN HODDINOTT, The University and British Dairy Institute, Reading.
CHRISTIAN KEVIN CAMPBELL HOYLE, The University and British Dairy Institute, Reading.
C. MARY L. INGHAM, Lancashire County Council Dairy School, Hutton, Preston.
ALAN BERNARD JAMES, The University and British Dairy Institute, Reading.
CATHERINE JONES, University College of Wales, Aberystwyth.
ISABELLA JONES, University College of Wales, Aberystwyth.
MENA JONES, The University and British Dairy Institute, Reading.
SARAH MARY KINSEY, University College of Wales, Aberystwyth.
MARJORY PRINGLE LAWRENCE, The College, Studley, Warwickshire.
VERA LEIGH, Lancashire County Council Dairy School, Hutton, Preston.
AGNES ALLISON NICHOLS, The University and British Dairy Institute, Reading.
EMILY NORA PENNIE, University College of Wales, Aberystwyth.
ARTHUR ROBINSON, The University and British Dairy Institute, Reading.
RUTH ROSS SUTHERLAND, East Anglian Institute of Agriculture, Chelmsford.
LILY TOMLINSON, Lancashire County Council Dairy School, Hutton, Preston.
ELIZABETH FLORENCE TURTLE, The College, Studley, Warwickshire.
IDA MAUDE TYLEY, The University and British Dairy Institute, Reading.
MAILAND E. VOWLES, The University and British Dairy Institute, Reading.
EDITH ANNIE WHINNERAH, The University and British Dairy Institute, Reading.

Gwen Williams, Midland Agricultural College, Sutton Bonington, and University College of Wales, Aberystwyth.
Priscilla Williams, University College of Wales, Aberystwyth.

Three candidates failed in not more than two subjects, for which they will be allowed to reappear at next year's Examination.

7. Fifty-nine candidates presented themselves at the Scottish Centre, of whom fourteen were re-examined in Paper Work and *vivâ voce* only. The twenty-four candidates whose names are given below succeeded in passing the examination. No candidate attained to the Honours standard:

SCOTTISH CENTRE.

Diploma.

James Richard Barrowman, 434 Crow Road, Jordanhill, Glasgow.
Joseph Cobbald Blossom, 35 Baronald Drive, Kelvindale, Glasgow.
James A. Brown, Junr., Cormiston Towers Farm, Biggar.
Douglas Campbell, 102 Glasgow Road, Clydebank, Glasgow.
Eleanor Cuthbertson, The Crossways, Rowlands Gill, Co. Durham.
Chodhri Chiragh Din, Sialkot City, Punjab, India.
John Latimer Ferguson, 56 Gorsedale Road, Mossley Hill, Liverpool.
Martha Jane Graham, Raygarter, Eastriggs, Dumfries-shire.
James Hannay, Challoch Dairy, Leswalt, Stranraer.
Georgia Margaret Johnson Henderson, Roesound, Reawick, Shetland.
Donald Stewart Hendrie, Westland, Galston, Ayrshire.
Thomas George Hendy, Seale Hayne Agricultural College, Newton Abbot, Devon.
Manilal H. Jani, Bhalej, via Bombay, India.
Tom Merchant, Dunkeswell, Exeter, Devon.
Margaret Skeoch Miller, Midkelton, Castle Douglas.
Thomas Murdoch, Hapland, Dunlop, Ayrshire.
Helen Christine Neill, Manse of Drumelzier, Broughton, Biggar.
Alexander Whyte Renfrew, Blackstoun Cottage, Paisley.
Harold Benjamin Salter, Newlands, Broadclyst, Exeter, Devon.
Margaret Isobel Sands, Louvain, Kinross.
Thomas Fraser Stoddart, Bogside, Irvine.
James Edward Tredinnick, Henforth Cottage, St. Martin, S.O., Cornwall.
Elizabeth Watson, Heathwood, Earlston.
Dudley Calvert Withers, 6 Claremont Road, Headingley, Leeds.

Five candidates failed in not more than two subjects, for which they will be permitted to reappear in 1931.

All the candidates at the Scottish Centre had been students at the Kilmarnock Dairy School.

8. The Examiners at both Centres were: R. H. Evans, B.Sc. (*Dairy Farming, Dairy Hygiene, and Practical Butter-making*); William Lawson, M.B.E., N.D.A. (Hons.), C.D.A. (Glas.), N.D.D. (*Principles of Dairying. Dairy Factory Management and Dairy*

Engineering and Practical Cheese-making); J. F. Tocher, D.Sc., F.I.C. (*Chemistry and Physics*); A. T. R. Mattick, B.Sc. (*Dairy Bacteriology*); James Wyllie, B.Sc., N.D.A. (Hons.), N.D.D. (*Dairy Bookkeeping*).

William Burkitt, M.Sc., N.D.D., *Chairman.*
T. B. Turner, *Secretary.*

16 Bedford Square, London, W.C.1.
September, 1930.

ANNUAL REPORT FOR 1930 OF THE PRINCIPAL OF THE ROYAL VETERINARY COLLEGE.

The year 1930 has been a tolerably satisfactory one in regard to the campaign against the scheduled contagious diseases of farm stock. Even in the case of Foot and Mouth Disease, which has proved so elusive in former years, the number of outbreaks has been almost negligible, being only 8 in the twelve months as against 38 in 1929, 138 in 1928, and 143 in 1927. Experimental use has been made of a protective serum for the cattle which are in the immediate neighbourhood of infected beasts, and the result appears to be sufficiently satisfactory to warrant its further trial.

There has been no reappearance of Glanders or Rabies, and, although there have on several occasions been the usual annual clamourings by certain sections of the Public for less restriction in the quarantine regulations at present in force in regard to the last-named disease, there has been no thought on the part of the Veterinary Officials of the Ministry of Agriculture of any change in regard to relaxation. Imported cats are now equally liable to the Quarantine Regulations as dogs, the period of isolation and observation being exactly the same in each case.

The fight against Tuberculosis still proceeds, but the progress made is slow, and it is estimated that this disease alone causes a loss to the Agricultural Community of about £2,000,000 annually. Experimental work with two different kinds of preventive sera are in process of being carried out in Norfolk and at Cambridge. It would be premature as yet to express any opinion upon either.

A few isolated cases of Anthrax in man have been reported during the year, but in cattle the incidence is slightly less than in 1929

Jöhne's Disease has not yet been brought under the Act and is an increasing menace to the life and health of the young stock, and from the dairy herds there still comes continuous evidence of Sterility, Mastitis, and Contagious Abortion. The chief work of the Research Institute of the Royal Veterinary College at present is the investigation of Jöhne's Disease and Mastitis.

Sheep Scab has diminished considerably, there being 479 outbreaks recorded as against 665 in 1929, 744 in 1928, and 723 in 1927.

Swine Fever has caused much loss and anxiety to pig owners, 2,408 cases in 1930 as against 2,981 in 1929 being a slight improvement, but far above 1,472 cases in 1928 and 1,794 in 1927.

Members of the Royal Agricultural Society have on numerous occasions during the year availed themselves of the privileges allowed by their membership to consult the Professors of the College over difficult problems, especially upon such diseases as Contagious Abortion, Mastitis and Sterility; and in the Chemical Department analyses have on several occasions been made for the detection of poisonous and deleterious material in food or water, the latter mainly in connection with sewage pollution. Of the poisons detected in the viscera sent up arsenic and lead appeared to play the major part, and in one instance samples of herbage were examined for contamination by fumes from smelting works.

The actual statistical position in regard to the Scheduled Contagious Diseases may be taken as follows:

GLANDERS.

Great Britain may be now legitimately considered free from Glanders, no outbreak having occurred since 1928, and then there was only one animal attacked.

PARASITIC MANGE OF THE HORSE.

The year's statistics show 199 outbreaks with 309 animals attacked, as against 204 outbreaks and 392 horses affected in 1929; not much diminution perhaps, but illustrative of the fact that its increase is at any rate held in check.

ANTHRAX.

This disease shows a definite improvement, in that there were only 391 outbreaks with 443 animals attacked, as opposed to 439 outbreaks and 529 animals attacked in 1929.

The following table shows the actual figures for the past 5 years:

Year	Outbreaks	No. of Animals attacked
1926	703	845
1927	425	497
1928	536	618
1929	439	529
1930	391	443

FOOT AND MOUTH DISEASE.

As stated in the introductory remarks, the incidence of Foot and Mouth Disease has been infinitesimally small as compared with other years, and it is to be hoped that at the end of 1931 one will be able to report again as favourably.

The monthly statistical tables of outbreaks in other countries, as published by the Ministry of Agriculture, demonstrate more than ever this year the advantageous position in which Great Britain is now placed in regard to this troublesome disease.

Month	Great Britain	France	Germany	Holland	Belgium
January	—	849	1,235	13	16
February	—	898	1,356	9	20
March	—	477	1,814	5	19
April	—	365	2,024	136	45
May	—	307	2,541	1,569	109
June	—	283	3,097	6,117	117
July	—	292	3,555	6,062	147
August	—	319	3,627	4,262	167
September	7	651	4,666	4,973	151
October	—	852	5,602	3,847	73
November	1	722	5,012	2,234	86
December	—	530	3,827	1,074	93

As previously stated, the further report, after more extended trial, upon the value of the use of the special immunising serum will be awaited with much interest; as, if proved to be effectual and safe, it will obviate the destruction of hundreds of contact cattle and will be the salvation, on occasions, of valuable pedigree herds.

TUBERCULOSIS.

The work done under the Tuberculosis Order of 1925 is still carried out, but the progress made is not all that one could wish. As has been pointed out on many occasions the tuberculous animal which is reported under the Act has generally been a source of contagion for a sufficient length of time to have spread infection to its fellows, and, although more care is now taken in regard to reporting early, a good deal is still required in this connection. The tubercle-free herd is unquestionably the ultimate goal to be sought, but, until the Public realises its responsibilities in this direction and compensates the farmer and dairyman for the extra expense and trouble incurred, so long will the herds of this country contain reactors to the tuberculin test. It is largely a matter of £ *s.* *d.* and the present time is not one in which extra burdens can be put upon agriculturists and stock-owners.

The numbers of animals slaughtered under the Tuberculosis Order of 1925 are as follows:

Year	Number of Animals Slaughtered
1926	17,348
1927	17,381
1928	16,759
1929	15,532
1930	15,363

SHEEP SCAB.

The following shows approximately the numbers of officially confirmed outbreaks:

Year	Number of Outbreaks
1925	670
1926	717
1927	723
1928	744
1929	665
1930	479

This, as will be seen, is a definite and decided improvement, and for this improvement the action taken by the Veterinary Committee of the Royal Agricultural Society in 1929 can legitimately claim a considerable amount of credit; especially for that portion of its propaganda which was carried out through the Press. But the position is far from satisfactory as yet.

SWINE FEVER.

The attempts to do other than merely control this disease have met with no successful result. The number of outbreaks between the 1st of January to the 31st of December, 1930, was no less than 2,408—slightly lower, it is true, than in 1929 (2,981)—but that was an abnormally bad year.

The following table of statistics illustrates this point :

Year	Outbreaks
1925	1,643
1926	1,200
1927	1,794
1928	1,472
1929	2,981
1930	2,408

FREDERICK T. G. HOBDAY.

Royal Veterinary College,
London, N.W.1.

ANNUAL REPORT FOR 1930 OF THE CONSULTING CHEMIST.

ANOTHER year of much difficulty to farmers, ending up with a very uncertain harvest and a marked fall in prices of produce, has been experienced. Under such circumstances science can do but little to help farming, nor is such a time conducive to more expenditure than is necessary. It would not, therefore, have been surprising had the number of samples sent to the Society's Laboratory shown a further falling-off on the figures for 1929. This, however, is not the case, the numbers being closely alike, viz. 162 for 1929 and 157 for 1930. In addition, there were 21 samples of Cider analysed in connection with the Manchester Show.

If there has been one feature in the farmer's favour, it is that the prices of fertilisers and feeding stuffs have been either stationary or have undergone a downward tendency. Fertilisers have remained steady in price throughout the year, the only material fluctuations being in those for Nitrate of Soda and Sulphate of Ammonia. These were not great ones, and it has not been necessary for me to suggest any change in my Tables for the assessment of the Unexhausted Manurial Value of purchased foods, &c.

In Feeding Stuffs the changes have been more marked, and with a general tendency to cheapening. Thus, Linseed Cake—which cost in November, 1929, £12 17*s.* 6*d.* per ton—has shown a gradual decline to £10 15*s.* in March, and £9 5*s.* in July, 1930, rising to £9 10*s*. in September. Cotton Cake, starting with £6 10*s* a ton a year ago, went to £5 12*s*. 6*d*. in March, £4 7*s*. 6*d*. in July, and £4 10*s*. in September, 1930. Offals of wheat, which ranged, a year ago, about £6 10*s*. a ton, fell to £4 or so in July, 1930, since then rising slightly. Barley meal, from £9 a ton a year ago, has fallen to £6 2*s*. 6*d*., and Sussex Ground Oats from £10 to £7 2*s*. 6*d*. Other feeding stuffs have, in most cases, experienced a somewhat similar reduction in price. All this is to the benefit of farmers, though it has to be remembered that an abundant crop of grass has rendered them less dependent on artificial feeding.

Nothing that I am aware of as being new in the way of either Fertilisers or Feeding Stuffs has come to the fore, but there has been—mainly through the wider application of the Fertilisers and Feeding Stuffs Act—a general improvement in the quality of what is supplied to the farmer. This is largely due to the activity of County Councils, and, when the Act is energetically worked, it is found to be very beneficial. There are, however, some counties which, to all intents, ignore the existence of the Act, and it is time now that the Ministry of Agriculture should exercise the powers conferred on it by the Act, and call upon such counties to carry out the obligation imposed on them.

While, on the whole, the Act has been found to work smoothly and beneficially, and has caused but little friction between vendors and purchasers (the division of civil and criminal procedure tending much to this end and making the new Act greatly superior to the old one of 1898), there are certain points in which its defects have been shown, and, no doubt, others will appear as time goes on. The existence of a standing Advisory Committee—of which I happen to be a member—ensures the watching of the working of the Act and the bringing forward of any questions that may arise. I cannot, however, say (though a member of it) that it has always shown that readiness to take the lead, and to urge the Ministry to take action, which was to have been expected from such a body, and it is not improbable that in the endeavour to represent all interests—traders as well as agriculturists—the interests of the latter have—as the Royal Agricultural Society pointed out in their communication relative to the constitution of the Advisory Committee—been allowed to suffer.

An instance of this has been brought out in the recent discussions on the subject of Barley Meal, and which I have dealt with fully later on. The introduction—in the 4th Schedule of the Act—of Definitions, the exact meaning of which the Advisory Committee themselves were not able to come to a decision about, but preferred to leave to be settled in a Court of Law, is a case in point. Happily, the legal decision arrived at is a very reasonable and equitable one, but I would have preferred to have seen it settled by the Advisory Committee who drew up the definitions in question.

Before proceeding to give particulars of cases which have arisen in connection directly with samples submitted to me by members of the Society, I would deal with two important matters which have much exercised my attention, and in respect of which decisions have been given in Courts of Law. Both of these call for some detailed reference because of their importance to the farming community.

CASTOR-OIL BEAN IN FEEDING CAKES, &c.

It has long been known that certain feeding cakes—generally Linseed cake and Groundnut cake made abroad and imported into this country—are liable, either through careless cultivation or want of precaution at the mills where they are made, or at the ports from which the uncrushed seed is exported, to contain Castor, a seed notoriously harmful to stock. This occurs largely, it would seem, with seed either crushed in or exported from India, and instances have occurred during the past year where cake, so sent over and subsequently found to contain Castor, has been the cause of considerable trouble and loss of stock.

Two such cases occurred in the experience of members of the Society and were duly reported to me. The ultimate settlement of claims arising out of these has not yet been reached, but an important legal decision has been given as regards the onus of responsibility. An importing firm in Liverpool sold to distributing merchants, also at Liverpool, a cargo of Linseed cake made in India, the importers stating that, while they did not guarantee it to be Castor-free, they had an analysis stating that it was thus free. The purchasers distributed the cargo in smaller lots to other vendors, and several cases of illness and death of stock resulted. The distributors sued the importers for the compensation they had been called upon to pay, and, in the course of the hearing, the Judge ruled that the importers could not, by any special proviso, free themselves from the liability imposed on them by the Fertilisers and Feeding Stuffs Act, and which made it an offence to sell cake for feeding purposes which contained an injurious constituent like Castor-bean, and on this ground he gave judgment for the distributors. He, however, ruled that the liability did not extend to each individual transaction, inasmuch as the purchasers might have found out for themselves if the cake contained Castor or not, but he limited payment to the difference of value between the cake as it should have been and as it actually was. To this ruling exception may well be taken, inasmuch as it assumes that a cake containing

Castor has a market value as a feeding-stuff, whereas the Act clearly does not allow of the sale of such as a food for cattle.

The Judge further suggested that the harmful cake might be ground up and mixed with other materials, so as to reduce the amount of Castor to an extent in which it would no longer be harmful to stock.

This, it seems to me, is a very dangerous suggestion and one favouring adulteration, which should be most strongly opposed. The only safeguard, I am convinced, by a long experience, is to exclude entirely anything that contains injurious constituents, or is in any way unfit for use by stock.

The whole question as to the possibility of the occurrence of Castor in such feeding stuffs has been raised afresh by this inquiry, and, as I have on previous occasions drawn attention to it and the risk that may be incurred, it is well that I should here restate the position. It has been sought to fix a limit, which shall not be exceeded, as to the amount of Castor that may be allowed to avoid the rejection of a cargo, and agricultural chemists have been called upon to certify as to the percentage of such seed present. Now, were the distribution of Castor in a delivery of cake anything like uniform, there might be some force in giving results in this form. But, knowing as I do that there is absolutely no uniformity whatever in the distribution, and that in a delivery it may happen that out of, say 100 bags, one only may be found to contain Castor in harmful amount, and the statement of percentage consequently be very misleading, I have always resolutely refused to state results in this form, though I am well aware that other chemists have found themselves obliged to meet the trade demand. To my mind, the real question is whether Castor is present or not, and not whether, taking the cargo as a whole, there is enough Castor to do harm. As I have indicated, there may be 99 bags quite free of Castor, or certainly insufficient to do harm, and then a purchaser may come upon a bag that has enough to kill a number of his stock. It is, therefore, no comfort to him to know that the whole cargo or consignment, if evenly distributed, would not show more than a certain percentage. The only safeguard consists, I am convinced, in a rigid insistence on the entire exclusion of Castor-seed, as provided for in the Act, and not to pass, as "pure and fit for feeding," cake that is found to contain any Castor whatever. It is on this ground that I demur to the Judge's ruling in assigning to cake containing Castor a value as a feeding stuff, holding, as I do (and supported as I am by the Act), that such cake should not be recognised as a food suitable for feeding purposes.

In this connection it may be of interest to add that in a communication I have recently received from Liverpool, I am told that it is a regular practice with the makers of cakes in

India who wish to exclude the possibility of having Castor seed present, to pass the seed (Linseed, Earthnut, &c.) over ribbons as it goes to be crushed, and to have coolies standing by who pick out the Castor bean, if present, as the seed travels along. The cost of this, I am told, is only 2½*d.* a ton, so that at very moderate cost the absence of Castor can be secured.

I am all against any system of " allowances " where injurious constituents are concerned, and am convinced that safety lies only in their entire exclusion.

BARLEY MEAL.

The second matter in which an important legal decision was given was that of Barley meal, and what should constitute a meal so described. This is a subject in which the Royal Agricultural Society has greatly interested itself for the last two years, and, by representations made to the Ministry of Agriculture, by Deputation to the Minister, and by its publications, has sought to bring about a better state of things than followed on the passing of the new Fertilisers and Feeding Stuffs Act of 1926. This Act, by the introduction of Definitions for the various articles comprised under the Act, was largely instrumental in opening the way for the use of foreign barley—often of very impure nature—as the basis of Barley meal as thenceforth sold. Under the old Act of 1908 it was laid down that when a feeding stuff was sold under a name which implied that it was the product of any particular seed, grain or other substance, it was pure, i.e., composed of that seed, grain or substance only, and without admixture of anything else. It was left to the agricultural analyst under the Act to say whether, in his opinion, the article sold complied or otherwise with the description given.

As a matter of fact, this part of the old Act had worked very well, and but few cases of trouble or uncertainty occurred, and the quality of Barley meal, speaking generally, was quite good.

The new Act of 1926, however, introduced a Schedule of Definitions for each article, and to which this was expected to conform. In the case of a number of meals made from single grains or seeds, &c., such as Wheat meal, Barley meal, Bean meal, Pea meal, Maize meal, &c., the phrase " commercially pure, as grown," was unfortunately introduced, and at once arose a discussion as to what this phrase meant. It was, however, round " Barley meal " that the contention centred, the traders in foreign barleys contending that so long as it could be shown that Barley meal was ground from what passed on the market as " barley," and that nothing had been purposely added to it, such barley could be used for grinding into, and for sale as, " Barley meal." It was, at the same time, well known that, while home-grown barley only had about 1 per cent. of total impurities (examination of a large number of samples showed from ½ to 1½ per cent. at most), and while some classes of foreign barley were also quite good and reasonably clean, there were others that might have varying quantities and kinds of impurities ranging from 2 per cent. to as much as 10, 12, 15, 20 per cent. or more. Indeed, some kinds, known under the names "Canadian Feed Barley" and "Federal Barley," had normally 15–20 per cent. of impurities and might have more. The name "barley" could, in fact, be applied to all barleys that contained 50 per cent. or more of barley. To grind these and sell the product as Barley meal constituted a great injustice to the home-grower of barley and to the miller who made Barley meal from home-grown grain, the foreign barleys being very much cheaper. Now the term "commercially pure" is not one used or recognised in the Corn Trade; every cargo of barley that comes in is sampled officially and a certificate of the amount of impurities is given, the price being fixed according to this and to the quality and condition of the barley. Deductions are made in respect of the impurities present, and the rate of this is higher as the impurity increases in amount.

But it was maintained that all such barley would come under the definition "commercially pure, as grown" so long as no wilful addition had been made, and, as a consequence, very shortly after the introduction of the new Act, the quality of Barley meal began to suffer, much of the foreign and impure barley being used, either alone or mixed with home-grown or better kinds of barley, for grinding into Barley meal. Strong representations as to this, and the harm done to the home-grower, were made by the R.A.S.E., and my reports to the Chemical Committee contained frequent references to the evils consequent on the new practice. Attempts by County Councils to institute proceedings against sellers of Barley meal were negatived by the refusal of the Ministry to give the needed sanction to prosecutions, and the Advisory Committee of the Ministry—of which I am myself a member—after many discussions, in the course of which much information as to the nature of barleys of different origin as well as evidence from trade representatives and others was obtained, could not be persuaded by myself or others to alter the definition as it stood in the new Act.

This unsatisfactory state of things continued until September, 1929, when, on a purchase of Barley meal, the vendors of which had gone further than was necessary and described it as "pure Barley meal," a summons was served on the vendors for selling Barley meal not answering to the description given. The prosecution was undertaken by the Middlesex County Council and was heard at Brentford Police Court. The Ministry of

Agriculture, after receiving the Government Chemist's certificate as to the meal containing something like 15 per cent. or so of impurities, had previously given their sanction to a prosecution. The defendants were convicted and a fine of £5 5*s.* with £10 10*s.* costs imposed. This decision, however, while applicable to anything sold as "pure Barley meal," left unsettled the question as to what that simply described as "Barley meal" should consist of.

For the time, the quality of Barley meal generally was improved, but the trouble frequently reappeared, and it was not until another prosecution—again at the instance of the Middlesex County Council—was projected, that any advance was made. Once more the Advisory Committee of the Ministry were approached to say more clearly what they meant by "commercially pure, as grown," but again they declined to alter their definition, and a deputation from the R.A.S.E. to the Minister of Agriculture, though it received a sympathetic hearing, had no further success at the time. On the Ministry, however, receiving from the Government Chemist a certificate practically confirming my own, on which the prosecution was based, to the effect that approximately 15 per cent. of Oats, besides Wheat and weed seeds in small amount, were present, they gave their sanction to a prosecution. The hearing of the case lasted for two days at the Uxbridge Police Court, July 25 and 30, 1930, and, in the course of it, the evidence of a Government Chemist, Agricultural Experts, Inspectors, Farmers, &c., in addition to my own, was forthcoming on the one side, and that of Corn Trade representatives, millers, and other experts on the other side. After a very careful hearing the magistrates convicted, imposing a fine of £5 with twenty guineas cost, and stating that, in their opinion, after hearing the evidence given, "commercially pure barley, as grown," meant barley that did not contain above 4 per cent. of total impurities.

This decision—which must be recognised by all concerned as a very just and reasonable one—thus settled, for the time being, at least, a long vexed question, and in a way quite satisfactory to the purchaser of Barley meal and to the honest trader in good and clean grain.

It is only to be regretted that the Ministry of Agriculture, at the instance of its Advisory Committee, did not long before take the step of saying clearly—as they were urged to do—what they had in mind when framing the definition which gave rise to so much confusion.

It will be a gratification to the R.A.S.E., the National Farmers' Union and other agricultural bodies who have worked to this end, as well as to myself, to have such a satisfactory conclusion arrived at.

I now refer, as usual, to special points of interest which have been brought out in the examination of samples sent me by members during the year.

A. FEEDING STUFFS.

1. *Linseed Cake.*

Detailed reference has been made to the occurrence of Castor-oil bean in Linseed and other cakes. The legal proceedings narrated had their origin, partly at least, in samples of Linseed cake submitted to me by two of our members residing in the neighbourhood of Wellington, Shropshire.

One of these had over 100 cattle scouring very badly, also a number of sheep, and, on sending me a sample of the suspected cake on December 15, 1929, I found it to contain Castor-oil bean. The cake was called "Screw-Press Linseed Cake." Subsequent examination of different parts of the delivery proved some of them to contain Castor, while others were quite free from it, thus exemplifying what I have pointed out in my earlier note as to the very variable distribution of the poisonous seed, and rendering any statement as to percentage present not only useless but misleading. The cattle were a long time recovering, and some 30 had to be sent to market five or six weeks later and be killed, as they continued to lose condition. The matter of compensation is still under discussion.

In the second case the member in question sent me on January 14, 1930, a sample of a purchase of Screw-Press Linseed cake, and in this I similarly found Castor-oil bean present. The cake had been fed to eight Hereford bullocks, all of which became ill and one died. In this case also a settlement has not yet been come to.

In contrast with the above I give the analyses of two Linseed cakes of high quality.

	A.	B.
Moisture	9·97	10·25
Oil	12·93	13·30
[1] Albuminoids	29·31	26·19
Carbohydrates, &c.	34·70	44·37
Woody Fibre	7·18	
[2] Mineral Matter	5·91	5·89
	100·00	100·00
[1] Containing Nitrogen	4·69	4·19
[2] Including Sand and Silica	1·06	1·33

A was stated to be Russian Linseed cake, and cost £9 10*s.* a ton delivered in Hampshire. This is a low price considering that Linseed cake (9 per cent. Oil) was at the time (July, 1930) selling in London at £9 5*s.* a ton ex Mills.

Both cakes were pure and in sound condition.

2. *Decorticated Cottonseed Meal.*

A sample sent in January, 1930, by a member residing in Norfolk gave the following analysis :—

Moisture	9·69
Oil	7·80
[1] Albuminoids	43·50
Carbohydrates, &c.	25·48
Woody Fibre	7·57
[2] Mineral Matter	5·96
	100 00
[1] Containing Nitrogen	6·96
[2] Including Sand and Silica	·06

The meal was a nice and bright-looking one, clean and good, being also well decorticated. Its price was £11 17*s.* 6*d.* per ton delivered.

3. "*Chilian Peas.*"

Reference has been made in my reports to the Chemical Committee to the sale of an article known as "Chilian Peas," and which was found to have killed a number of pigs. On examination I found the "peas" to be "cyanogenetic," *i.e.*, they gave off, on fermentation, hydrocyanic (prussic) acid. I endeavoured then to find out where these came from, and, after considerable difficulty, have ascertained that they come from Chili (S. America), not from Chihli (China) as was at one time stated, and that they are the screenings of Chilian barley.

Moreover it was established, through the kind help of Kew and of other botanical friends, that the delivery sold as "Chilian peas" were not "peas" at all, but species of Vetch (tares), and that some of these were possessed of poisonous properties and some few not. It is clear that the presence of all such in feeding materials, or for sale as such, must be rigidly excluded.

This matter led me to examine a number of samples of Vetch (tare) as ordinarily supplied by growers in our own country, and, though I had these from various sources and different parts of the country, in no case did I find them to be "cyanogenetic."

4. *Lamb Food.*

A member living in Oxfordshire sent me in May, 1930, a sample of Lamb Food which he suspected of being the cause of death of some of his lambs. Examination of it by myself, however, did not reveal the presence of anything of an injurious character, nor did that of a post-mortem examination of the viscera of one of the lambs that had died. The Veterinary report on the lambs that died was to the effect that they had died from gastro-enteritis. I entered into correspondence with the Royal Veterinary College respecting this matter and the possibility of the food doing harm. The authorities of the College were very helpful and offered to have some of the other lambs up and to keep them under observation, but the farmer, having made up his mind that the food was the cause of the trouble, would not proceed further, though it was pointed out to him that lambs at that time of the year are very liable to suffer from parasitic attacks which result in gastro-enteritis.

5. *Middlings.*

A member sent me two samples of Middlings, stating that one—which was rather darker-coloured than the other—was English and cost £5 per ton, whereas the other, which was of foreign origin, was priced at £6 a ton. He wished to know if the higher price of the latter was justified.

I found both samples to be genuine and equally clean, being free of other grain than wheat. The comparative determinations made were:—

	English Middlings. Per cent.	Foreign Middlings. Per cent.
Fibre	5·83	5·82
Mineral Matter	3·96	4·29
Including Sand and Silica	·17	·20

There was, thus, practically nothing to choose between the two, and certainly nothing to warrant the higher price of the foreign Middlings.

6. *Persian Barley.*

A good deal has been said about foreign barley, and here I give the analytical separation of a sample sent me by a member who had purchased, as "Persian barley," barley for grinding for his own use. This consisted of:—

	Per cent.
Oats	5
Wheat	2
Weed Seeds and Dirt	4
Barley	89
	100

This barley, accordingly, contained 11 per cent. of total impurities and could not be considered as one fairly answering to the description "commercially pure, as grown." But, of course, when barley is sold unground, it is easy for a purchaser to judge for himself of its quality, and, so long as it is sold under a name rightly describing its origin, there is no misrepresentation.

It is a different matter, however, when such barley is ground up into meal and sold simply as "barley meal."

B. FERTILISERS.

1. *Peruvian Guano.*

Reference was made in my last Annual Report to the renewal of shipments of Peruvian Guano, and to these being of very high quality, and not unlike the rich deliveries of earlier days. These features have been kept up, and the following are analyses of two excellent lots of Peruvian Guano of which samples were sent to me by members :—

	A.	B.
Moisture	18·15	21·70
[1] Organic Matter and Salts of Ammonia	48·03	46·90
Phosphate of Lime	25·32	25·10
Magnesia, Alkalies, &c.	4·79	4·29
Sand	3·71	2·01
	100·00	100·00
[1] containing Nitrogen	13·13	13·18
equal to Ammonia	15·94	16 03

The cost of A was £17 5*s*. per ton, on rail, London.

2. *Waste Lime.*

A sample of Lime-waste from lime works gave :—

	Per cent.
Lime (CaO)	56 77
Sand	9·60

The material was well ground, and, costing, as it did, only 14*s*. per ton at the works (Lincolnshire), should prove well worth getting, provided that the cost of carriage be not high.

C. MISCELLANEOUS.

1. *Waters.*

(*a*) from near a churchyard.
(*b*) sent in dirty bottle.

(*a*) I have previously had occasion to remark on the nearness of a churchyard or cemetery to a water supply from a well being frequently the cause of contamination of the latter. The analyses of such waters are generally marked by the presence of chlorides and nitrates in considerable amount, while, owing to the water having passed through the soil, there may be comparatively little dissolved organic matter or ammonia shown. Such was the following :—

	Grains per Gallon.
Total Solids	66·50
Oxidisable Organic Matter	·56
Chlorine	5·40
equal to Chloride of Sodium	8·90
Nitric Acid (as Nitrates)	7·84
Free Ammonia	·006
Albuminoid Ammonia	·005

At the time of reporting I did not know anything about the situation, but expressed my opinion that the supply was contaminated. I suggested an examination of the surroundings before a new well was (as proposed) dug, and, suspecting that a churchyard or highly manured land might be near, asked for information as to these. I was consequently in no way surprised to hear that a churchyard and a cemetery were both near by.

A second sample from another source, also near by, gave even worse results, viz.,

	Grains per Gallon.
Chlorine	8·50
equal to Chloride of Sodium	14·01
Nitric Acid (as Nitrates)	24·01

(*b*) I am always averse to having samples of water sent me in stone jars that have been used for beer, spirits and the like, as one can seldom ensure that these have been properly cleaned. But even with the glass-stoppered Winchester bottles that one gets at a pharmaceutical chemists care has to be taken that they are thoroughly clean.

A member sent me a sample of water to be used for drinking purposes. Fortunately, at the outset, I tested it for ammonia, and, finding the amount to be abnormally high, did not proceed further, but asked for another sample, sending, myself, a bottle for the purpose. The fresh sample showed the water to be perfectly good, and I subsequently ascertained that the first bottle sent had been used for holding ammonia!

2. *Sewage Tank Effluent.*

The Septic Tank is in such general use now that the question of the manurial value of the effluent has naturally been raised, and, on a member sending me such an effluent, I made an examination of it. Of course, the matter of extent of dilution plays a very great part in the consideration; but, on general grounds, one would hardly expect a well-purified effluent to be manurially the equal of one but imperfectly purified and containing unconverted organic and nitrogenous components. And so this proved in the case submitted to me, the effluent being composed as follows:—

	Per cent.	Grains per Gallon.
Total Solid Constituents	·042	29·75
Organic Matter	·011	7·42
Nitrogen (total)	·00337	2·36
Phosphoric Acid	·0009	·63

This, indeed, was so dilute that the probability is that it would pass through the soil as drainage and leave little to be retained by the soil for enriching the latter.

3. *Oyster Shell and Cockle Shell.*

Among poultry fanciers it has been a general "article of belief" that nothing in that way is as good as *Oyster* shell. This is brought over largely from America and much is said as to the particular merits of it and the need of seeing that it is bright, clean, free from impurity and so forth. On the other hand, Cockle and other shells, which we have in abundance in this country, are esteemed of little or no value and not to be compared with the imported Oyster shell. Having made a number of analyses of each kind, I was at a loss to account for the difference, analyses proving almost identical, and I being unable to find out wherein any "hidden value" in the Oyster shell rested. The prices, too, are widely different, for, while Oyster shell may cost £5 to £5 10*s*. a ton, Cockle shell can be had for a few shillings a ton at the seaside places where it lies in heaps. Comparative analyses of samples sent to me gave:—

	Oyster Shell.	Cockle Shell.
Carbonate of Lime	96·91	96·40
Siliceous Matter	·14	·49
Moisture, &c.	2·95	3·11
	100·00	100·00

To help in settling the question, I obtained the co-operation of a friend—an authority on poultry-rearing and feeding—and got him to carry out some experiments for me. These have been published in the Ministry of Agriculture *Journal*, January, 1931, and it will be sufficient to say here that the result was to show that, while undoubtedly poultry showed a preference for the bright and shiny Oyster shell when the two kinds were put before them, yet when they had only the Cockle shell or the two mixed together, after a very short time they would take to the Cockle shell and eat it just as freely as the Oyster shell.

The Chemical Committee lost by death, on October 9, one of its valued members, Mr. James Falconer, of Micheldever. His long and varied experience of agriculture in different parts of the world, together with his powers of observation and his enterprise made him a specially useful member, and in the work of the Committee and of the Woburn Experimental Farm he always showed much interest.

It may not be out of place if I refer also to the death of my own brother, Mr. E. W. Voelcker, who for 45 years had been my partner in my professional practice. During my absence in India, 1889–91, he acted as Deputy Consulting Chemist to the Society, and, at the close of his period of office acting in this capacity, was honoured by the Society in being made an Honorary Life Member.

The following is the list of samples submitted by members from December 1, 1929, to November, 30, 1930:—

Linseed Cake and Meal	6
Cotton Cake and Meal	3
Compound Feeding Cake and Meal	18
Ground Nut Cake	6
Cereals, Offals, &c.	10
Silage	1
Peruvian Guano	2
Basic Slag	8
Superphosphate	2
Compound Manures	5
Raw and Steamed Bone	3
Sulphate of Ammonia	3
Potash Materials	5
Shoddy, &c.	10
Lime, Chalk, &c.	8
Milk, Butter, &c.	5
Water	25
Soil	13
Miscellaneous	22
	157

J. A. VOELCKER.

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ANNUAL REPORT FOR 1930 OF THE BOTANIST.

THE number of enquiries (186) received in the Botanical Department during 1929–30 was appreciably lower than that of the previous year (242). The diminution was not spread uniformly over the various sections in which they are generally classified in this report. It occurred chiefly in those dealing with cereals, root crops and seed testing. The number of seed samples tested fell off greatly immediately after the passing of the Seeds Act and became more or less stabilised at about forty a year. It now shows a tendency to diminish still further whilst the samples are almost without exception home-grown. The number of enquiries about grassland management and weeds was about the average of the two previous years, whilst those connected with fungoid diseases showed an increase. There was about the usual number of minor enquiries about garden plants and such odds and ends of interest as the nature of the contents of pheasants' crops, the plants to be found in the crowns of pollarded willows, branching ears of barley, &c.

Fungoid Diseases.—Specimens of most of the commoner plant diseases were again received and reported on. The range of the enquiries and personal observation both indicated that the season was an average one as far as the distribution and the intensity of the attacks of fungoid pests were concerned. The enquiries concerning the diseases of fruit trees again showed the tendency noted in the past two seasons to increase in number, whilst the diseases of forest trees were not represented by a single enquiry. Few of the diseases were of any special interest. The scab of apples and pears again headed the list with fourteen samples of damaged fruit. The attacks of the fungus responsible for it were comparatively light in the previous season and it seemed reasonable to hope that this would be the case this year owing to the chances of infection being less numerous than usual. The inference proved unsound. The disease is undoubtedly a difficult one to deal with effectively, for it cannot, at present, be stamped out once for all and it is necessary to employ control measures every season. Three sprayings are, as a rule, essential if unblemished fruit is to be produced. The first, which is too often omitted, should be applied just before the trees open up their first blossoms, the second when the fruit is from a half to three-quarters of an inch in diameter, the third when half-grown. Either lime sulphur or Bordeaux mixture so used gives good control, the latter being perhaps the better on some varieties of pears on which lime sulphur causes scorching of the foliage.

The brown rot of fruit was apparently unusually common during the autumn, for it was represented by twelve specimen batches of infected apples, pears and plums. The fungus causing it occurs on the foliage and young shoots, but the disease is generally unnoticed until the fruit begins to ripen. The popular name describes its symptoms accurately. The softened, brown fruits do not decay further but remain either hanging on the trees or scattered on the ground in a more or less mummified condition. As they serve as the starting-point of the disease in the following season they should be collected and destroyed. The normal spraying routine can then be expected to keep the trees free from infection.

Potato Blight (Phytophthora) was late in starting in 1930, the first case reported being from Cornwall about the middle of May. The first outbreaks observed personally in the Eastern counties occurred about a month later. These were on stray plants surrounding potato clamps at three centres some miles apart. The sites had been noted previously and kept under observation from the time the disease was first known to be present in the country. It made little headway until early in August, but it then spread rapidly and by the beginning of September the outbreak had become serious. One member reported that at least half of the tubers of a crop of British Queen which was then being lifted were infected although the damage to the haulms was so slight that a practically disease-free crop had been anticipated. A very similar case was reported immediately afterwards of the almost complete destruction of a garden plot of Myatt's Ashleaf, whilst several others were heard of when the lifting of the main-crop varieties became general.

The same fungus was found in specimens of tomatoes grown in the open. The crop was stated to have done well up to the stage when the earliest fruits had begun to colour. The foliage was then attacked and there appeared to be every probability that it would be destroyed before the fruit could mature. Spraying with Bordeaux or Burgundy mixture would have prevented the spread of the disease, though, at this stage of growth, it would possibly have spoilt the fruit for marketing. Another bundle of tomato haulms showed the presence of the brown mould (*Cladosporium fulvum*) in abundance. The fungus had spread rapidly when the house had been closed to hasten on the ripening of the crop. A small-scale trial indicated that dusting with flowers of sulphur controlled the disease to some extent, but the outbreak had gone too far to hope for an effective cure.

Three more specimen lots of the strawberry disease noted in previous reports were sent in for examination. One of these was from a bed which had been planted under good conditions early in September with runners purchased for the purpose as the home stock was known to be defective. Whether they were already infected when purchased or whether they were attacked after being transplanted could not be determined. It has, so far, been unusual to find symptoms of this obscure disease in plants only a month or two old. No suggestions can be made with regard to methods of curing it or preventing its attacks.

Grassland.—Most of the grassland enquiries centred round the formation of three or four year leys rather than permanent grassland. They came, significantly, from southern and south-eastern parts of the country. None of them showed features of any special interest or necessitated the drawing up of prescriptions to meet unusual circumstances. A few regarding recently established grassland were somewhat unusual. One of these was concerned with heavy clay land in Essex which had been sown down with the mixture No. 1 recommended in the Society's Leaflet, that is with seeds of perennial ryegrass, cocksfoot, Timothy, crested dogstail and rough-stalked meadow grass. The bale of vegetation sent to the Department was found to consist almost exclusively of vigorous runners, portions of which were often over a yard in length, of watergrass (*Agrostis stolonifera*). Unfortunately no opportunity occurred to inspect the field, but according to the account sent with the sample a fair plant had been secured from the sowing made three years previously. The evidence available appeared to indicate that the land was already stocked with this grass and that enough of its runners had survived the preliminary cultivation to enable it to re-establish itself. There is the possibility, however, that seeds of it may have been carried to the site by the wind, for they are unusually light (5,000,000 to the lb.). The only method of checking its further development appeared to be to tear off as much as possible with harrows and apply a phosphatic dressing to give any clover which had survived a fresh start. This treatment, followed by heavy stocking, should give some control, for the grass, though generally roundly condemned is usually well grazed if its shoots are not allowed to become old. In a second case, also on a heavy clay soil, the crop bore no resemblance to that anticipated from a knowledge of the constitution of the seeds mixture sown. This time the slender Foxtail (*Alopecurus agrestis*) accounted for the greater part of the vegetation. The plant is known to be very common in the district as an arable-land weed and there can be little doubt that the soil contained an abundance of its seed shed in advance of the harvesting of the wheat crop which the field carried immediately before its preparation for grassing down. It is an annual species and the early cutting suggested may have given the perennial species sown in the original mixture a chance to smother it out finally. One enquiry raised the question whether under the circumstances described it would be a good policy to let an area of some forty acres grass itself down. It is surprising that it has not been raised before for the practice is an old and much criticised one. The land to be dealt with was described as "extraordinarily pasty and difficult," a description confirmed by a reference to a geological map which showed that the district was on the blue lias clay. The land was known to be in a foul condition owing to cultivation difficulties. It was evident, too, that the expenses of thoroughly cleaning the land and of providing and sowing seeds on it would exceed its capital value. The advice given may possibly be considered heretical in these days of abundant and fairly reasonably priced seed supplies. It was to make an effort to obtain a tilth of some sort immediately after carrying the crop of beans then on the field and to broadcast and harrow in anything looking like grass seeds which could be got together from lofts, mangers, stack bottoms and so on. It was based partly on the subsequent management of the land being an important factor in the production of a good turf and partly on the fact that locally produced seed stands a better chance of establishing itself under these difficult conditions than the ordinary commercial strains.

Crops.—One of the results of the drought of 1929 was to call attention to the value of fodder crops capable of partially withstanding its effects. In the late autumn of that year there were several enquiries about the possibility of cultivating lucerne, one of the most drought-resisting fodder crops known, in districts where it is not grown at present. These were supplemented by further enquiries in the spring of 1930. Members were again advised, especially when situated in districts where the rainfall is normally low, to give the crop a trial, and instructions for its management in the earlier stages of growth were sent. Apart from the difficulty of establishing a plant on soils which have not grown lucerne previously—now to a great extent overcome by the use of cultures of the appropriate nodule organism—the main trouble associated with the crop is to keep it from being overrun with grasses and arable-land weeds. These often establish themselves strongly in spite of repeated cuttings, for the growth habit of lucerne does not make it an effective smothering plant. Drilling at a sufficient width to allow of occasional intercultivation is the only preventive.

In spite of the newness of the crop in this country there are still comparatively few enquiries about sugar beet. Bolting is the commonest subject on which information is sought. It now appears certain that whilst some strains of seed are more prone to flower prematurely than others, that a sharp check to growth in the early stages of the plant's growth is a very common cause for this occurrence. Early sowing with the consequent probability of frost when the plants were bearing some three or four leaves appeared to be responsible for each of the complaints received. Reliable information about the best strains for English conditions has accumulated steadily and a number of trials made at experimental stations in different parts of the country has shown that a wise choice of strains has generally been made. This is not so simple a matter as it appears to be at first sight. There are two distinct types: one with a high sugar content and a low tonnage of roots per acre, the other with a relatively low sugar content and a heavy yield of roots. For factory purposes the former is obviously the better, as for a given weight of sugar less raw material has to be handled. These extremes are bridged by an intermediate group which, though not producing a particularly high percentage of sugar per root, crops sufficiently heavily to give a large yield of sugar per acre. Both the generally grown Kleinwanzleben E and Dippe E come into this group. There is little to choose between them, but the former may be slightly easier to lift and possibly less prone to bolt. On the fertile fen soils, where early sowing is a common practice, the growth of the small-topped Kuhn P with a high sugar content appears to offer some advantages.

The demand for information about the cereal crops was smaller than usual. Two members were interested in the system of intensive cultivation of wheat recently introduced with good results in North Italy. This depends partly on good initial cultivation and partly on the use of what at first sight appear to be excessively extravagant applications of artificial manures. But the chief feature in which it differs from current practice here is in giving dressings of nitrogenous manures whilst the plant is in a more or less dormant condition, followed by one or more light dressings when it is growing rapidly in the spring. These may mount up to two or three hundredweights per acre and together with liberal applications of phosphates the cost of manures per acre may be from £3 to £4. Large crops have been secured over very considerable acreages, but it is questionable whether at the present prices of wheat their production is profitable. The risk, moreover, has to be considered of having to deal with badly lodged crops.

The failure of autumn-sown oats was again the cause of several complaints. In each case a bad choice of variety had been made. They serve to emphasise the fact repeatedly mentioned in this report that the only reasonably reliable winter-hardy sorts are the old Black and Grey winter oats.

Farm Weeds.—The difficulties of keeping the land clean under the present conditions, especially when the established routine of farming operations has been thrown out of gear by a late sugar-beet harvest, has led to numerous enquiries about the technique of weed eradication. The subject is badly in need of investigation and, at present, few suggestions apart from better cultivation can be offered. Practically every enquiry concerned some common weed of arable land and, for once, out-of-the-way species were not represented in the annual list. Chickweed appears to have been one of the most troublesome. It is one of the weeds which is easily controlled by hoeing when the conditions are favourable. But if showers follow this operation or if the surface soil is moist the plants soon root down again and only experience a temporary check. As it starts into growth very early in the spring or continues to grow through the winter months if its seeds have germinated in the autumn it is often possible to eradicate it before barley or oats are sown. Where fields are known to be heavily infested a short delay in the spring sowing is worth risking if a thorough preliminary cultivation can be effected. Another annual, knotgrass, was the subject of several enquiries. This again starts into growth very early in the spring. The seedlings can be destroyed readily, but once the plant is well established its roots toughen to such an extent that hoes fail to cut through many of them and much of the work is wasted.

The corn buttercup or staveacre, a common denizen of heavy lands, is another of the many weeds which should be exterminated at or as near the seedling stage as possible. As a result of its over-abundance one member found that wheat which was needed for sowing still contained its seeds although it had been winnowed repeatedly. A good separation was effected by trickling the grain over an inclined blanket to which the burr-like seeds of the buttercup adhered.

Weeds appear to have developed to an unusual extent during the autumn months, especially on the lighter types of soil. Two to which attention was called were the field poppy and the jointed charlock or wild radish. The former was reported to be in great abundance and flowering freely in a mangold crop in October and the latter was forming plants described as "bush-like" in a field of sugar beet. As there was a possibility of the seeds of the jointed charlock ripening, the removal and destruction of the plants was suggested when the crop was lifted. It is probable that the dryness of the earlier part of the season had prevented the germination of the seeds at their normal period and that they had started into growth and produced vigorous plants subsequent to the last cleaning of the crop. The same weed over-wintered so successfully on sandy soil in South Norfolk that in March it was a menace to autumn-sown oats.

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ANNUAL REPORT FOR 1930 OF THE ZOOLOGIST.

INTRODUCTION.

LIKE 1929 the past year has been one of abnormal weather conditions, and in most cases of crop failure these have been of more importance than the attacks of injurious insects. Some insects, however, have been more than usually destructive, and among them is the turnip-fly. It is thought that a fairly full account of this pest in the present Report will be of interest to Members of the Society. Other pests in unusual abundance were winter-moth, cockchafer, and pea-thrips. Except on fruit trees, the latter part of the year was particularly free from severe insect attacks and many common pests such as celery-fly and cabbage caterpillars were in many districts far less destructive than usual. In accordance with the recommendations of the Warble-fly Committee set up by the Hon. Leathersellers' Company experiments were continued at the Cambridge University Farm in the treatment of warbled cattle by various derris compounds, and the very satisfactory results are described below.

CEREAL CROPS.

A few cases of frit-fly in wheat were reported early in the year, and wheat crops were also damaged by slugs, but on the whole the cornflies seemed to be conspicuous by their absence. 1929 was an abnormally bad year for wheat-bulb fly, but during the past season I received no complaints of this pest. Later on crops suffered so much from the weather that insect attacks were not much noticed, though a few cases of wheat midge were reported.

ROOT AND VEGETABLE CROPS.

In this section many of the customary pests were recorded. Root-fly maggots were frequently complained of, and wire-worm, chafer larvæ, swift-moth caterpillars, cut-worms and leather-jackets were destructive. There was also much aphis attack in some districts. The most important pest on Cruciferous crops, however, was turnip-fly which necessitated the frequent re-sowing of certain root crops and seriously dislocated farming operations by reducing the winter supply of cattle food. Recent investigations with regard to this pest may be unfamiliar to some Members of the Society, and therefore a short résumé of what is known about it is here given.

TURNIP-FLY.

Turnip-fly has been one of the principal agricultural pests for a very long time past. It was the subject of very careful study by John Curtis in 1860, and since that time numberless workers have gone over the ground again and the literature is quite extensive, especially the department of it which concerns itself with methods of treatment. Quite recently, under the auspices of the Ministry of Agriculture and Fisheries, the whole subject has been re-investigated, and Mr. H. C. F. Newton of Wye Agricultural College published in 1928 two important papers embodying the results of research up to that date.[1]

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[1] *The Biology of Flea Beetles attacking cultivated Cruciferæ*, and *Experiments in the Control of Flea Beetles of the genus "Phyllotreta."*

For all this study and research the pest is still, in certain seasons, as destructive as it ever was, and agriculturists very naturally ask with some impatience why some means of combating it successfully cannot be devised. During the past season it was the cause of very great loss to the country, and enquiries with regard to it were numerous. It is thought that a short account of the present condition of our knowledge of the subject will be of interest to Members of the Society.

In the time of Curtis it was considered that one beetle, *Phyllotreta nemorum*, was mainly responsible for the destruction of germinating turnip crops, and it was named the turnip-fly. Even then it was recognised that other allied species might also be present, though of subsidiary importance. Nowadays when a census is taken of the species occurring in any given turnip-fly attack this particular species is always in a small minority and is sometimes entirely absent. "Turnip-fly," then, is an indefinite term applied to any one of a number of beetles which attack the germinating turnip crop. This is how the matter stands.

There is a group of small beetles (*Halticidæ*) known popularly as "flea-beetles" from their ability to jump like fleas. Some of them practically confine their attention to certain plants. For instance there is a potato-flea, a hop-flea, and even a belladonna-flea. Many, however, all belonging to one genus—*Phyllotreta*—are only attracted by one order of plants, the Cruciferæ. The principal cultivated Cruciferæ are turnips and swedes, the cabbage tribe (cabbage, kale, kohl-rabi, sprouts, etc.), rape, radish and mustard, and all of them are subject to attack by *Phyllotreta* beetles. Mangolds and beet are not Cruciferæ, and though they are sometimes attacked by a flea-beetle of their own (*Plectroscelis concinna*) the true turnip-flies are not attracted by them. This answers a question often asked by farmers—how it is that mangold and beet are untouched in a severe turnip-fly attack.

In addition to the cultivated Cruciferæ there are on the farm a number of cruciferous weeds. By far the most important is charlock, but there are many others like shepherd's purse and hedge-mustard.

No fewer than fourteen species of *Phyllotreta* have been found on cultivated Cruciferæ. Nine of them are quite common, and in every serious attack seven or eight species are almost sure to be present. The form (*P. nemorum*) originally named the "turnip-fly" has a yellow stripe down each wing cover, and so has another species (*P. undulata*), now much more common. The other species have no yellow stripe but are of the same colour all over.

Life-history.—During the winter the beetles are in hiding, for the most part deep down in the grass of the hedge-rows or sometimes under clods. The first warm weather of spring brings them forth. *P. nemorum* behaves a little differently from the rest, emerging rather early, before cruciferous crops are ready, and resorting to charlock, etc., till the turnip cotyledons appear, but the other species seem to seek out the crops as soon as they emerge from their winter shelters, and an important and new observation of Mr. Newton's was that, by burrowing down to the germinating seeds, they often did irreparable damage even before the cotyledons (seed-leaves) pierced the soil, and that some of the cases in which the crop failed to appear above ground at all were due to this early subterranean attack. In less severe cases the cotyledons are perforated in the way familiar to every farmer, and if a spell of dry weather ensues the plant can make no headway, and is unable to "grow away" from the pest. Most of the crops are fairly safe if they can reach the "rough-leaf" stage, but the rough leaves of the white turnip continue to be attacked by the beetles, so that of all the Cruciferous crops this is the one which suffers most severely.

After feeding and pairing, the next thing is to lay eggs and provide for the future generation of beetles. Here again *P. nemorum* is peculiar, for after clearing off the turnip crop it goes back to the weeds and lays its eggs in the soil about the foot of charlock and other plants, on which its grubs feed. The eggs of the other species are laid at the roots of surviving plants of the crops attacked by the beetles, or of some other Cruciferous crop which has escaped destruction. Egg-laying continues till the middle of July. The eggs take ten days or a fortnight to hatch and then the grubs attack the roots—without doing much harm—and then bore their way up the stem into the leaves, in which they mine, spending altogether about a month in the plant. After a short quiescent pupal stage they become mature beetles, and by the beginning of September no more grubs or pupæ are to be found and the new brood of beetles is complete. There is no evidence that any of these beetles lay eggs the same year, but they presently go into winter quarters, though some will emerge on warm winter days and feed on any cruciferous crop at hand. The mass attack will not occur till the following May and its severity will depend on the weather, a hot dry spell favouring the beetles and delaying the growth of the plant.

TREATMENT.

It is obvious at the outset that there are peculiar difficulties in dealing with this pest. Suitable cover is so abundant that the idea of destroying the beetles in their winter quarters seems impracticable. The attack is so sudden, and, in dry weather, so rapid that unless immediately recognised and even anticipated the harm is done before any measures can be taken. Moreover it comes at a busy time when farm hands are fully occupied, and few farmers are equipped with any special apparatus which can be employed at a moment's notice to combat it.

After a particularly severe attack in 1881 Miss Ormerod sent a questionnaire to her farmer correspondents all over the country with the idea of getting together all the information possible from a practical point of view. Many of the answers were of considerable interest, and though views differed as to the utility of some measures advocated, there was a general consensus of opinion on the broad principles by which they were guided. These have always been insisted on by economic entomologists who have written on the subject.

Treatment falls under two heads :—

A. Cultural measures likely to prevent or lessen the severity of attack.

B. Curative measures when an attack has declared itself.

A.

1. Destroying the winter shelter of the beetles as far as is practicable by cleaning up the hedge-rows and burning debris.

2. Keeping down Cruciferous weeds—especially charlock.

3. Preserving all possible moisture in the soil by getting an early tilth and disturbing the ground as little as possible at the time of sowing; hence the advocacy of "stale furrows."

4. "Pickling" the seed in some substance offensive to the beetle. There is considerable difference of opinion as to the utility of this measure and the recent Wye experiments in this direction did not give encouraging results. The plan of drilling a deterrent substance along with the seed was considered more promising.

5. Rolling after drilling. Mr. Newton, however, strongly advises "press-rolling" on the drill only, leaving the soil between the drills unrolled, to admit of subsequent scuffling.

B.

So far there is practical agreement on all hands, but now the trouble begins. The attack is frequently unnoticed till the crop is practically destroyed, and Mr. Newton's new observation shows that subterranean attacks may even prevent the appearance of the crop above ground at all. In such a case there would seem to be nothing to be done unless the farmer suspects what is happening from the dryness of the weather and the non-appearance of the crop and passes a roller over the field. Ordinarily, however, the cotyledons duly appear, only to be immediately attacked by myriads of beetles and promptly cleared off. It is an emergency matter and there is no time to begin devising methods of combating the pest. Unless it is anticipated and means to fight it are in readiness the crop is lost.

The farmers consulted by Miss Ormerod relied chiefly on two expedients—rolling, and what may be described as *dusting* the crop. As soon as the pest appeared they rolled, with the idea of crushing the beetles and consolidating the soil round the plants. This plan is still advocated, especially if the soil is cloddy. Dusting was thought to save the crop by rendering the leaves unpalatable to the beetle, and it was achieved in a number of ways, a favourite method being to drive sheep over the field in the early morning, when many beetles were crushed and the leaves, moist with dew, were covered with dust. Another method was to drag brushwood over the field, to disturb the beetles and create a dust. These were rough-and-ready methods which sometimes proved effective. Attempts were also made to trap the beetles by dragging tarred sacks over the crop, and ingenious applications of this method to various farm vehicles were devised, and later, light vehicles especially adapted for this operation were introduced.

Then came the question of the feasibility of employing some insecticide distributed by a special spraying machine such as a "strawsoniser," and the substances which have been experimented with in this connexion are well-nigh innumerable. Several were tried in the recent investigation at Wye with varying success, and certain conclusions were drawn which must be quoted. In the first place it is not a case for the use of *poison* insecticides (arsenic, etc.). There is too little plant substance to operate on, and by the time the beetles have eaten enough of the poisoned plant to kill themselves, the crop is destroyed.

The next point is that deterrents proved more satisfactory than insecticides, that is, it was more practicable to render the plants unpalatable than to kill the beetle without injury to the plant. The most successful of the substances tried by Mr. Newton was nicotine sulphate, which can be distributed either as a spray or in the form of dust. The dust was ineffective unless the leaves were wet with dew, and the spray is therefore preferable. Thirty to forty gallons per acre of water containing ·15 to ·2 per cent. of nicotine sulphate is the solution he recommends, and he estimates the cost per acre, based on the prices of 1928, as about 7*s.* 6*d.*

The cultural methods advocated as likely to mitigate attack —clearing of hedgerows, early tilth, etc.—are generally agreed upon and are practised in good farming as far as the circumstances permit. When an attack occurs, however, it generally finds the farmer fully occupied with other operations and unprepared with any measures which can be applied immediately to combat it. Rolling might be done as a routine operation in weather suitable for the fly when it is due to appear, though the plant has not yet shown itself Above all it is important that its advent should be watched for, and that measures should be ready for instant application

White turnips suffer most, because they continue to be attacked even in the rough leaf. Some investigators have found indications that different varieties do not all suffer alike, and this raises the question whether it might not be possible to find strains comparatively resistant to the fly.

The matter is so important that further experimentation in this direction will be carried out.

PULSE AND CLOVER CROPS.

Pea thrips was more prevalent this year than for many years past. As this pest works on the outside of the pod no great harm is done in slight attacks, but when severe the pods are stunted and distorted and the yield is reduced.

In some districts sainfoin was badly injured by the midge. My attention was called to this pest by both farmers and bee-keepers. In some parts of the country it appears that bee-keepers regard the sainfoin crop as the staple source of food for their bees, and they attributed the very low honey production of the past season largely to the failure of the sainfoin crop. On the face of it it hardly appeared likely that an insect devouring the *seed* should affect bees, which were only interested in the *flower*, but on examination it was found that many of the flower-buds attacked by the midge never opened, so that a midge attack on sainfoin may contribute towards the failure of the honey crop. The sainfoin failure, however, was by no means general, nor is that crop everywhere regarded as the mainstay of the bee-keepers, and it is probable that adverse weather conditions were the chief cause of the poor yield of honey.

FRUIT CROPS.

The list of insects found damaging fruit crops was, as usual, a long one, but nothing of special interest transpired with regard to most of the pests. The season was a particularly bad one for winter moth. This was anticipated, as the female moths were observed ascending the trees all through the winter and to an abnormally late date in the spring—even in March, and unbanded trees in certain districts suffered severely.

It is a common practice to trap the apple-blossom weevil by means of bands of sacking, in which the weevils take cover for the winter, and this method has a certain amount of success.

Mr. A. M. Massee of E. Malling has, however, obtained far better results by using corrugated cardboard bands, covered by grease-proof paper. Whereas in the sack bands he trapped an average of forty weevils per band the cardboard bands averaged 390! The narrow canals in the cardboard were packed with weevils, which evidently found in them ideal winter quarters. Such bands, ready for use, are on the market under the trade name "Ca-we-co bands." Mr. Massee also found that for those who preferred to adhere to sack-banding, the efficiency of the sack bands was greatly increased by spraying them liberally with tar-distillate washes at the time of the routine winter spraying.

FOREST PESTS.

Several insects injurious to forest trees have been sent for identification and advice. They include pine-sawfly, pine-bud Tortrix, the black pine bark-beetle, cut-worms in a nursery, and *Lachnus virminalis* on willows. The "witches' broom" of the willow, noted in my Report for 1928, seems to be spreading rapidly. I was mistaken, however, in believing that it had hitherto escaped notice in England, for there is an account of if by Dr. Miller Christy in Vol. LIII of the *Journal of Botany* (1915). It was found in the neighbourhood of London, and that it had only recently reached this country seemed probable from the fact that Connold, whose book on galls was published in 1913, did not include it in 270 kinds of gall he describes. I have not found any other reference to it in England, but the way in which it is spreading is remarkable. It is extremely disfiguring to the trees, but how far it is seriously injurious is rather doubtful. The galls are always developed from the female flowers, and though several varieties of willow are attacked, the principal sufferer being *Salix fragilis*, I have not yet heard of its appearance on the bat willow. It is attributed to a gall-mite, *Eriphyes triradiatus.*

WARBLE-FLY.

During 1929 I attended the meetings of the Warble-fly Committee set up by the Worshipful Company of Leathersellers to consider the best way of dealing with this formidable pest, and to initiate an intensive campaign throughout the country towards its extermination. Agreement was quickly arrived at by the experts on the Committee on two points. Preventive measures were not advised, as having experimentally proved entirely ineffective, or with results not at all commensurate with the trouble and expense involved. It was the unanimous opinion that the curing of warbled cattle was the most promising line to pursue, and of the numerous insecticides considered there was a general agreement that the most satisfactory results had been obtained by the use of preparations of derris root, which were fatal to the warble grub without injury to the animals treated.

Derris elliptica is a climbing plant indigenous to the East Indies. Its root—generally called Tuba root—furnishes a poison used for ages past by the Malays to poison fish, and for some considerable time as an insecticide in the East. It has recently been employed by insecticide manufacturers for various purposes, chiefly the preparation of sheep dips. Unfortunately so far it has been found impossible to standardise it in the true sense of the word, that is, to obtain preparations of the precise percentage of toxicity desired.

It was decided to experiment this year at the University farm with various derris preparations against warble-fly, and recourse was had to certain proprietary washes issued by a firm which had deeply studied the subject and had come as near to standardisation as present knowledge permitted.

The preparations experimented with were "Polvo," "Warble-fly Ointment," "Warble-fly Solution" and "Kurmange." In the case of all the animals treated "Polvo" was applied to the left side and one of the other preparations to the right side.

The animals on the farm comprised 20 bullocks, 16 cows and 19 store cattle. Nine of the bullocks and 4 of the cows developed no warbles, so that the animals treated were 42: 11 bullocks, 12 cows and 19 stores. Mr. F. H. Garner was in charge of the experiments.

As usual the bullocks and cows were comparatively lightly infested, and all four preparations were quite efficacious in killing the warble grubs, none of which were found alive after two or three fortnightly applications. The stores were treated monthly, and it appeared that this interval was somewhat too long, since the treatment was much more effective at an early stage of the grub, and during the month between inspections it sometimes happened that new warbles had so increased in size that it was simpler to squeeze them out. These surviving warble grubs amounted to about 8 per cent. of the whole, so that the monthly application of any of the preparations was fatal to about 92 per cent. of the warble grubs, and it is highly probable that practically all would have been accounted for had the interval between the applications been reduced to three weeks.

At the end of the warble-fly season the bullocks were sold to a butcher who knew nothing of the experiments. He was astonished to find all the grubs in the hides dead with a single exception, and called at the farm to find out the reason. In effectiveness "Polvo" had a slight advantage, but the "Warble-fly Solution," which was very much more easy to apply and more economical in time and material, was unfortunately the least satisfactory as an insecticide. No deleterious effects were observed on the animals treated.

The activities of the Leathersellers' Committee during 1930 were, to quote the words of its Report, directed along two main channels, namely, propaganda by means of printed leaflets, handbills, etc., and efforts to organise the systematic treatment of cattle through the co-operation of the various county authorities. 30,000 handbills and 70,000 copies of a leaflet on treatment were distributed to farmers and agricultural departments. In thirty-three counties official action was taken in response to the appeal of the Committee, and controlled experiments and demonstrations were carried out under the direction of the Agricultural authorities. The reports were uniformly favourable, and there is every reason to be satisfied with the first year of the great campaign against warble-fly due to the initiative of the Leathersellers' Company.

MISCELLANEOUS.

In my Report for 1929 I gave a short account of the "white grubs" characteristic of the beetles known as Lamellicorns, in which the chafers are included. An observation with regard to the cockchafer early in the present year is worth recording. In February a number of grubs were found at the roots of a lime tree and were identified as cockchafer larvæ. A month later it was decided to make a thorough clearance of the soil, when it was found that the grubs had now become fully-formed beetles, not a single larva or pupa being visible. This was a striking instance of the characteristic behaviour of beetles, which, as a rule, pass a very short time as pupæ (chrysalids) but attain their complete form long before they become active. These cockchafers were fully developed early in March though they would not normally emerge from the soil to feed upon the leaves of oak and other trees until May.

The cockchafer appears in especially large numbers in cycles of years, and there were indications that 1930 was one of these "flight years" in the south of England. On the Continent, where this insect is a much more serious forest pest, these flight years are utilised for special raids on the beetles, which are caught and destroyed in immense numbers.

CECIL WARBURTON.

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MEDAL FOR "AGRICULTURAL RESEARCH"

THE COUNCIL desire to call attention to the offer by the Society of a MEDAL for Original Agricultural Research, the Regulations governing which are as follows:—

1. The Medal shall be called the ROYAL AGRICULTURAL SOCIETY OF ENGLAND'S RESEARCH MEDAL. The Medal will be of Silver, and money or books to the value of Ten Pounds will be added.

2. The Medal shall be awarded for a Monograph or Essay giving evidence of original research on the part of the candidate on any agricultural subject, on any of the cognate agricultural sciences, or on agricultural economics. It must be signed by the candidate as the genuine work of the candidate himself.

3. Candidates for the Medal must reside in Great Britain or Ireland, and must not be more than thirty years of age on 29th September, 1931.

4. The Medal shall be adjudged by referees appointed by the Council of the Royal Agricultural Society.

5. The Monograph or Essay shall be forwarded to the Secretary of the Royal Agricultural Society *on or before OCTOBER 31st, 1931.* The Monograph or Essay shall be typewritten or printed.

6. If, in the opinion of the Referees, no Monograph or Essay be found to attain a sufficient standard of excellence, they shall be at liberty to reserve the Medal of that year for award as an additional Medal in some subsequent year.

7. The Monograph or Essay of the successful candidate shall be published in the Journal of the Royal Agricultural Society, if, in the opinion of the Council, it is suitable for that purpose. Essays already published shall not be eligible for the Medal.

Royal Agricultural Society of England.

(*Established May 9th,* 1838, *as the* English Agricultural Society, *and incorporated by Royal Charter on March 26th,* 1840.)

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1929	Bell, John, *The Hall, Thirsk* (*Yorks, N. Riding*).
1930	Benyon, Henry A., *Ufton Court, near Reading* (*Berkshire*).
1928	Bohane, Edward, C.B.E., *Simmons Court House, Donnybrook, Co. Dublin* (*Ireland*).
1918	Burke, U. Roland, *Edensor House, Bakewell* (*Derbyshire*).
1923	Burkitt, William, *Grange Hill, Bishop Auckland* (*Durham*).
1931	Burrell, Walter R., *Floodgates, West Grinstead, Horsham* (*Sussex*).
1929	Buxton, Capt. H. G., *Cokesford Farm, Tittleshall, King's Lynn* (*Norfolk*).
1928	Christy, Capt. Hugh A., *Llangoed, Llyswen, Breconshire* (*South Wales*).
1924	Cotterell, Sir John R. G., Bart., *Garnons, Hereford* (*Herefordshire*).
1921	Courthope, Col. Sir G. L., Bart., M.C., M.P., *Whiligh* (*Sussex*).
1921	*Dampier-Whetham, W. C. D., M.A., F.R.S., *Upwater Lodge, Cambridge.*
1926	Dudgeon, Major Cecil R., M.P., *Cargen Holm, Dumfries* (*Scotland*).
1927	Dugdale, Major W. Marshall, D.S.O., *Llwyn, Llanfyllin, Mont.* (*North Wales*).
1929	Elgin, Earl of, C.M.G., *Broomhall, Dunfermline* (*Scotland*).

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* Nominated Member of Council.

Ordinary Members of the Council (*continued*).

Year when first elected on Council	
1913	Evens, John, *Burton, near Lincoln* (*Lincolnshire*).
1926	Everard, W. Lindsay, M.P., *Ratcliffe Hall, Leicester* (*Leicestershire*).
1921	Fenwick, E. Guy, *North Luffenham Hall, Stamford* (*Rutland*).
1928	Forshaw, Thomas, *The Stud, Carlton-on-Trent, Newark* (*Nottinghamshire*).
1924	*Garrett, Col. Frank, C.B.E., _Aldringham House, nr. Leiston_ (_Suffolk_).
1922	Gates, B. J., *Pembury, Tring* (*Buckinghamshire*).
1916	Gilbey, Sir Walter, Bart., *Elsenham Hall, Elsenham* (*Essex*).
1931	Greenall, Hon. Edward, *Waltham House, Melton Mowbray* (*Cheshire*).
1925	Hall, Windham E., *Mowbreck Hall, Kirkham* (*Lancashire*).
1923	Hall, J. Herbert, *Hill House, Mobberley, Knutsford* (*Cheshire*).
1930	Hansford, Major C. C., *The Orchard, Thornbury, Bristol* (*Gloucestershire*).
1905	Harris, Joseph, *Brackenburgh Tower, Penrith* (*Cumberland*).
1926	Hastings, Lord, *Melton Constable Park* (*Norfolk*).
1905	Hiscock, Arthur, *Manor France Farm, Stourpaine, Blandford* (*Dorset*).
1919	Hobbs, Robert, *Kelmscott, Lechdale, Glos.* (*Oxfordshire*).
1931	Jervoise, Major F. H. T., *Herriard Park, Basingstoke* (*Hampshire*).
1923	Johnstone, Capt. G. H., *Trewithen, Grampound Road* (*Cornwall*).
1912	Lane-Fox, Col. Rt. Hon. G. R., M.P., *Bramham Park, Boston Spa* (*Yorks, W. Riding*).
1909	Mansell, Alfred, *College Hill, Shrewsbury* (*Shropshire*).
1922	Matthews, Frank P., 27 *Cavendish Square, W.*1 (*London*).
1928	Matthews, R. Borlase, *Greater Felcourt, East Grinstead* (*Surrey*).
1911	Myatt, John, *Lincoln House, Shenstone, Lichfield* (*Staffordshire*).
1927	Neame, Thomas, *The Offices, Macknade, Faversham* (*Kent*).
1922	Neilson, R. B., *Holmswood, Sandiway* (*Cheshire*).
1922	Newton, Sir Douglas, K.B.E., M.P., *Croxton Park, St. Neots* (*Huntingdonshire*).
1915	Oliver-Bellasis, Capt. R., *Shilton House, Coventry* (*Warwickshire*).
1925	Paget, Leopold C., *Hardwick Grange, Clumber Park, Worksop* (*Yorks, W. Riding*).
1916	Price, F. Hamlyn, 7, *Harley Gardens, The Boltons, S.W.*10 (*London*).
1930	Quested, J. Egerton, *The Firs, Cheriton, Folkestone* (*Kent*).
1928	Radnor, Earl of, *Longford Castle, Salisbury* (*Wiltshire*).
1924	*Ransome, Edward C., _Highwood, Ipswich._
1905	Rea, George Grey, *Doddington, Wooler* (*Northumberland*).
1927	*Russell, Sir John, D.Sc., F.R.S., _Rothamsted Experimental Station, Harpenden, Herts._
1923	Sample, C. H., 26 *St. Mary's Place, Newcastle-on-Tyne* (*Northumberland*).
1931	Shelley, Sir J. F., Bart., *Posbury House, Crediton* (*Devonshire*).
1930	Smith, Eustace Abel, *Longhills, Lincoln* (*Lincolnshire*).
1907	Smith, Fred, *Deben Haugh, Woodbridge* (*Suffolk*).
1929	Stanley, Lord, M.C., M.P., *Knowsley, Prescot* (*Lancashire*).
1912	Strachie, Lord, *Sutton Court, Pensford* (*Somerset*).
1929	Strafford, Earl of, *Wrotham Park, Barnet* (*Middlesex*).
1923	Tanner, E. Craig, *Eyton-on-Severn, Wroxeter* (*Shropshire*).
1920	Thornton, F. H., *Kingsthorpe Hall, Northampton* (*Northants*).
1930	Treowen, Maj.-Gen. Lord, C.B., C.M.G., *Llanarth Court, Raglan* (*Monmouthshire*).
1924	Wakefield, Jacob, *Sedgwick House, Kendal* (*Westmorland*).
1926	Webb, Frank, *Billington Estate Office, Leighton Buzzard* (*Bedfordshire*).
1929	Webb, S. Owen, *Streetly Hall, West Wickham* (*Cambridgeshire*).
1925	Weigall, Lt.-Col. Sir Archibald G., K.C.M.G., *Englemere, Ascot* (*London*).
1889	Wheeler, Col. E. Vincent V., *Newnham Court, Tenbury* (*Worcs.*)
1918	Wickham-Boynton, T. L., *Burton Agnes Hall, Driffield* (*Yorks. E. Riding*).

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* Nominated Member of Council

STANDING COMMITTEES.

⁂ Under Bye-Law 73, the President is a Member *ex officio* of all Committees, and the Trustees and Vice-Presidents are Members *ex officio* of all Standing Committees except the Committee of Selection and General Purposes.

The Honorary Director is a Member ex officio of all Committees.

Finance Committee.

Adeane, C. (*Chairman*)
Devonshire, Duke of
Cornwallis, Lord
Daresbury, Lord
Burrell, Sir Merrik R.
Courthope, Sir G. L.
Burke, U. Roland
Crutchley, Percy
Greaves, R. M.
Harrison, W.
Mansell, Alfred
Paget, L. C.
Wheeler, Col.

Journal and Education Committee.

Cornwallis, Lord (*Chairman*)
Radnor, Earl of
Mildmay of Flete, Lord
Burrell, Sir Merrik R.
Courthope, Sir G. L.
Hazlerigg, Sir A.
Russell, Sir John
Adeane, C.
Brocklebank, Rev. C. H.
Burkitt, W.
Dampier-Whetham, W. C. D.
Mansell, Alfred
Neame, T.
Price, F. Hamlyn
Wheeler, Col.

Chemical Committee.

Smith, Fred (*Chairman*)
Harlech, Lord
Russell, Sir John
Burkitt, W.
Dampier-Whetham, W.C.D.
Gates, B. J.
Greaves, R. M.
Hale, W. E.
Neilson, R. B.
Oliver-Bellasis, Capt. R.
Rea, G. G.
Sample, C. H.

Botanical and Zoological Committee.

Hastings, Lord (*Chairman*)
Cornwallis, Lord
Treowen, Lord
Courthope, Sir G. L.
Hazlerigg, Sir A.
Ackers, C. P.
Ashton, T. W.
Benyon, H. A.
Burrell, Walter R.
Christy, Capt. H. A.
Dugdale, Major
Jervoise, Major
Le Sueur, A. D. C.
Neame, T.
Wheeler, Col.

Veterinary Committee.

Burrell, Sir Merrik R. (*Chairman*)
Radnor, Earl of
Hastings, Lord
Mildmay of Flete, Lord
Strachie, Lord
Greenall, Hon. Edward
Cotterell, Sir John
Gilbey, Sir Walter
Weigall, Sir A. G.
Ashton, T. W.
Barclay, E. E.
Behrens, Major Clive
Bell, John
Burke, U. Roland
Burrell, Walter R.
Buxton, Capt. H. G.
Crutchley, Percy
Fenwick, E. Guy
Gates, B. J.
Harris, Joseph
Hobday, Prof. F. T. G.
Johnstone, Capt.
Mansell, Alfred
Matthews, F. P.
Quested, J. E.
Smith, Fred
Stanyforth, Lt.-Col.
Tanner, E. C.
Thornton, F. H.

Committee of Selection and General Purposes.

Daresbury, Lord (*Chairman*)
The President
Desborough, Lord
Harlech, Lord
Mildmay of Flete, Lord
Courthope, Sir G. L.
Greaves, R. M.
Wheeler, Col.

And the Chairman of each of the Standing Committees.

Research Committee.

Devonshire, Duke of (*Chairman*)
Radnor, Earl of
Cornwallis, Lord
Hastings, Lord
Burrell, Sir Merrik R.
Russell, Sir John
Weigall, Sir A. G.
Adeane, C.
Burkitt, W.
Burrell, Walter R.
Buxton, Capt. H. G.
Dampier-Whetham, W. C. D.
Greaves, R. M.
Matthews, R. B.
Neame, T.
Smith, Fred
Wigan, Capt. D. G.

Stock Prizes Committee.

Evens, John (*Chairman*)
Daresbury, Lord
Greenall, Hon. Edward
Burrell, Sir Merrik R.
Cotterell, Sir John
Barclay, E. E.
Behrens, Major Clive
Bell, John
Brocklebank, Rev. C. H.
Burke, U. Roland
Burkitt, W.
Buxton, Capt. H. G.
Crutchley, Percy
Dudgeon, Major C. R.
Everard, W. L.
Fenwick, E. Guy
Forshaw, T.
Greaves, R. M.
Hobbs, Robert
Mansell, Alfred
Myatt, John
Neilson, R. B.
Paget, L. C.
Quested, J. E.
Rea, G. G.
Smith, Fred
Tanner, E. C.
Webb, Frank
Webb, S. Owen
Wickham-Boynton, T. L.
The Stewards of Live Stock

Judges Selection Committee.—*Same as Stock Prizes Committee.*

Implement Committee.

Stanyforth, Lt.-Col. E. W. (*Chairman*)
Courthope, Sir G. L.
Burke, U. R.
Burkitt, W.
Buxton, Capt. H. G.
Crutchley, Percy
Evens, John
Garrett, Col.
Gates, B. J.
Greaves, R. M.
Harrison, W.
Matthews, R. B.
Myatt, John
Ransome, E. C.
Sample, C. H.
Webb, S. Owen
Wheeler, Col.
The Steward of Implements

Showyard Works Committee.

Burke, U. Roland (*Chairman*)
Daresbury, Lord
Greenall, Hon. Edward
Burrell, Sir Merrik R.
Hazlerigg, Sir A.
Bell, John
Burkitt, W.
Burrell, Walter R.
Crutchley, Percy
Hall, J. H.
Neilson, R. B.
Paget, L. C.
Rea, G. G.
Sample, C. H.
Stanyforth, Lt.-Col.
Webb, S Owen

Dairy and Produce Committee.

Burkitt, W. (*Chairman*)
Strachie, Lord
Burrell, Sir Merrik R.
Weigall, Sir A. G.
Ashton, T. W.
Crutchley, Percy
Dampier-Whetham, W. C. D.
Evens, John
Greaves, R. M.
Johnstone, Capt. G. H.
Oliver-Bellasis, Capt. R.
Williams, Prof. R. Stenhouse

Horticultural Committee.

Daresbury, Lord (*Chairman*)
Hazlerigg, Sir A.
Burke, U. Roland

General Warwick Committee.

The Whole Council, with the following representatives of the Local Committee :—

Leigh, Lord
Parker, Hon. A. E.
Clementson, G. A.
Payton, H. G. Godfrey

Tandy, Alderman
Wheatley, Col. C. J. H.
Wiggin, Gen. E. A.
Wyley, Col. W. F.

Harvey, Capt. H. and Wright, R. H. (*Town Clerk*) *Joint Hon. Local Secretaries.*

Honorary Director.—U. Roland Burke.

Secretary.—T. B. Turner, 16 Bedford Square, London, W.C.1.

Editor of Journal.—Prof. J. A. Scott Watson, *School of Rural Economy, Oxford.*

Consulting Chemist.—Dr. J. Augustus Voelcker, M.A., 1 *Tudor St., E.C.4.*

Consulting Veterinary Surgeon.—Prof. F. T. G. Hobday, C.M.G., F.R.C.V.S., *Royal Veterinary College, Camden Town, London, N.W.*1.

Botanist.—Prof. Sir R. H. Biffen, F.R.S., *School of Agriculture, Cambridge.*

Zoologist.—Cecil Warburton, M.A., *School of Agriculture, Cambridge.*

Consulting Engineer.—Dr. B. J. Owen, *Institute of Agricultural Engineering, St. Giles, Oxford.*

Surveyor.—Charles H. R. Naylor, *St. Mary's Chambers, St. Mary's Gate, Derby.*

Publisher.—John Murray, 50a *Albemarle Street, W.*1.

Solicitors.—Garrard, Wolfe, Gaze & Clarke, 18 *St. James's Place, S.W.*1.

Bankers.—Westminster Bank, Ltd., 1 *St. James's Square, S.W.*1.

DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE SOCIETY, AND OF ORDINARY MEMBERS OF THE COUNCIL.

Electoral District	Division	Number of Governors and Members	Number of Ordinary Members of Council	Ordinary Members of Council
A.	Bedfordshire	81	1	Frank Webb.
	Cheshire	591	3	Hon Edward Greenall, J. H Hall, R B Neilson
	Cornwall	86	1	Capt. G. H Johnstone
	Derbyshire	247	1	U. Roland Burke.
	Dorset	105	1	Arthur Hiscock.
	Hampshire and Channel Islands	296	2	T W. Ashton; Major I. H. T Jervoise.
	Hertfordshire	191	1	E. E Barclay.
	Lancashire and Isle of Man	422	2	Windham E Hale; Lord Stanley
	Middlesex	76	1	Earl of Strafford
	Monmouthshire	93	1	Maj -Gen Lord Treowen
	Norfolk	339	2	Capt. H. G. Buxton, Lord Hastings
	Northamptonshire	202	1	F H. Thornton.
	Northumberland	286	2	G. G. Rea; C. H. Sample.
	Staffordshire	246	1	John Myatt.
	Worcestershire	172	1	Col E V. V Wheeler.
	Yorkshire, N.R.	293	2	Major Clive Behrens; John Bell
	Scotland	320	2	Major C R Dudgeon; Earl Elgin and Kincardine.
		—4,046	—25	
B.	Buckinghamshire	159	1	R. J. Gates.
	Devon	172	1	Sir J I Shelley.
	Durham	176	1	W. Burkitt.
	Essex	251	1	Sir Walter Gilbey.
	Herefordshire	168	1	Sir John R. G. Cotterell.
	Leicestershire	213	1	W Lindsay Everard
	London	505	3	F. P. Matthews; F. Hamlyn Price, Lieut -Col. Sir A. G. Weigall.
	Nottinghamshire	219	1	Thomas Forshaw.
	Rutland	41	1	E. Guy Fenwick.
	Shropshire	331	2	Alfred Mansell, E. Craig Tanner,
	Suffolk	241	1	Fred Smith.
	Surrey	215	1	R. Borlase Matthews.
	Wiltshire	184	1	Earl of Radnor.
	Yorkshire, W.R.	351	2	Col. Rt. Hon. G. R. Lane-Fox, Leopold C. Paget.
	South Wales	120	1	Capt. H. A. Christy.
		—3,346	—19	
C.	Berkshire	224	1	H. A. Benyon
	Cambridgeshire	186	1	S Owen Webb.
	Cumberland	151	1	Joseph Harris.
	Glamorgan	81	1	Hubert Alexander.
	Gloucestershire	296	1	Major C C, Hansford.
	Huntingdonshire	30	1	Sir Douglas Newton.
	Kent	344	2	Thomas Neame; J. E. Quested
	Lincolnshire	320	2	John Evens; Eustace Abel Smith
	Oxfordshire	194	1	Robert Hobbs.
	Somerset	164	1	Lord Strachie.
	Sussex	349	2	Walter R. Burrell; Col. Sir G L. Courthope.
	Warwickshire	256	1	Capt. R. Oliver-Bellasis.
	Westmorland	95	1	Jacob Wakefield.
	Yorkshire, E.R.	128	1	T. L. Wickham-Boynton.
	Ireland	70	1	Edward Bohane.
	North Wales	275	1	Major W. Marshall Dugdale.
		—3,163	—19	
Foreign Countries		236		*W C. D. Dampier-Whetham *Col Frank Garrett.
Members with no Addresses		20	4	*E. C. Ransome. *Sir John Russell.
Grand Totals		10,811	67	

* Nominated Members of Council.

TABLE SHOWING THE NUMBER OF GOVERNORS AND MEMBERS IN EACH YEAR FROM THE ESTABLISHMENT OF THE SOCIETY.

Year	President of the Year	Governors		Members			Total
		Life	Annual	Life	Annual	Honorary	
1839	3rd Earl Spencer	—	—	—	—	—	1,100
1840	5th Duke of Richmond	86	189	146	2,434	5	2,860
1841	Mr. Philip Pusey	91	219	231	4,047	7	4,595
1842	Mr. Henry Handley	101	211	328	5,194	15	5,849
1843	4th Earl of Hardwicke	94	209	429	6,155	15	6,902
1844	3rd Earl Spencer	95	214	442	6,161	15	6,927
1845	5th Duke of Richmond	94	198	527	5,899	15	6,733
1846	1st Viscount Portman	92	201	554	6,105	19	6,971
1847	6th Earl of Egmont	91	195	607	5,478	20	6,391
1848	2nd Earl of Yarborough	93	186	648	5,387	21	6,335
1849	3rd Earl of Chichester	89	178	582	4,643	20	5,512
1850	4th Marquis of Downshire	90	169	627	4,356	19	5,261
1851	5th Duke of Richmond	91	162	674	4,175	19	5,121
1852	2nd Earl of Ducie	93	156	711	4,002	19	4,981
1853	2nd Lord Ashburton	90	147	739	3,928	19	4,923
1854	Mr. Philip Pusey	88	146	771	4,152	20	5,177
1855	Mr. William Miles, M.P.	89	141	795	3,838	19	4,882
1856	1st Viscount Portman	85	139	839	3,896	20	4,979
1857	Viscount Ossington	83	137	896	3,933	19	5,068
1858	6th Lord Berners	81	133	904	4,010	18	5,146
1859	7th Duke of Marlborough	78	130	927	4,008	18	5,161
1860	5th Lord Walsingham	72	119	927	4,047	18	5,183
1861	3rd Earl of Powis	84	90	1,113	3,328	18	4,633
1862	H.R.H. The Prince Consort 1st Viscount Portman	83	97	1,151	3,475	17	4,823
1863	Viscount Eversley	80	88	1,263	3,735	17	5,183
1864	2nd Lord Feversham	78	45	1,343	4,013	17	5,496
1865	Sir E. C. Kerrison, Bart., M.P.	79	81	1,386	4,190	16	5,752
1866	1st Lord Tredegar	79	84	1,395	4,049	15	5,622
1867	Mr. H. S. Thompson	77	82	1,388	3,903	15	5,465
1868	6th Duke of Richmond	75	74	1,409	3,888	15	5,461
1869	H.R.H. The Prince of Wales, K.G.	75	73	1,417	3,864	17	5,446
1870	7th Duke of Devonshire	74	74	1,511	3,764	15	5,438
1871	6th Lord Vernon	72	74	1,589	3,896	17	5,648
1872	Sir W. W. Wynn, Bart., M.P.	71	73	1,655	3,953	14	5,766
1873	3rd Earl Cathcart	74	62	1,832	3,936	12	5,916
1874	Mr. Edward Holland	76	58	1,944	3,756	12	5,846
1875	1st Viscount Bridport	79	79	2,058	3,918	11	6,145
1876	2nd Lord Chesham	83	78	2,164	4,013	11	6,349
1877	Lord Skelmersdale	81	76	2,239	4,078	17	6,486
1878	Col. Kingscote, C.B., M.P.	81	72	2,328	4,130	26	6,637
1879	H.R.H. The Prince of Wales, K.G.	81	72	2,453	4,700	26	7,332
1880	9th Duke of Bedford	83	70	2,673	5,083	20	7,929
1881	Mr. William Wells	85	69	2,765	5,041	19	7,979
1882	Mr. John Dent Dent	82	71	2,849	5,059	19	8,080
1883	6th Duke of Richmond and Gordon	78	71	2,979	4,952	19	8,099
1884	Sir Brandreth Gibbs	72	72	3,203	5,408	21	8,776
1885	Sir Massey Lopes, Bart., M.P.	71	69	3,356	5,619	20	9,135
1886	H.R.H. The Prince of Wales, K.G.	70	61	3,414	5,569	20	9,134
1887	Lord Egerton of Tatton	71	64	3,440	5,387	20	8,982
1888	Sir M. W. Ridley, Bart., M.P.	66	56	3,521	5,225	16	8,884
1889	HER MAJESTY QUEEN VICTORIA	73	58	3,567	7,153	15	10,866
1890	Lord Moreton	122	58	3,846	6,941	17	10,984
1891	2nd Earl of Ravensworth	117	60	3,811	6,921	19	10,928
1892	1st Earl of Feversham	111	69	3,784	7,066	20	11,050
1893	1st Duke of Westminster, K.G.	107	74	3,786	7,138	21	11,126
1894	8th Duke of Devonshire, K.G.	113	73	3,798	7,212	22	11,218
1895	Sir J. H. Thorold, Bart.	120	80	3,747	7,179	23	11,149
1896	Sir Walter Gilbey, Bart.	126	83	3,695	7,253	23	11,180
1897	H.R.H. The Duke of York, K.G.	126	83	3,705	7,285	24	11,223
1898	5th Earl Spencer, K.G.	121	79	3,687	7,182	25	11,094
1899	Earl of Coventry	116	75	3,656	7,009	23	10,879
1900	H.R.H. The Prince of Wales, K.G.	111	71	3,628	6,832	24	10,666
1901	3rd Earl Cawdor	102	70	3,564	6,338	27	10,033
1902	H.R.H. Prince Christian, K.G.	100	69	3,500	5,955	26	9,650
1903	H.R.H. The Prince of Wales, K.G.	99	62	3,439	5,771	27	9,398
1904	16th Earl of Derby, K.G.	96	68	3,375	5,906	32	9,477
1905	9th Lord Middleton	89	78	3,212	5,758	33	9,170
1906	Mr. F. S. W. Cornwallis	94	155	3,132	6,189	30	9,600
1907	4th Earl of Yarborough	91	174	3,076	6,299	29	9,669
1908	9th Duke of Devonshire	89	178	3,019	6,442	30	9,758
1909	7th Earl of Jersey, G.C.B.	91	177	2,951	6,696	31	9,946
1910	Sir Gilbert Greenall, Bart.	86	166	2,878	6,934	31	10,095
1911	HIS MAJESTY KING GEORGE V.	85	168	2,805	7,191	30	10,279
1912	9th Lord Middleton	85	170	2,741	7,283	30	10,309

TABLE SHOWING THE NUMBER OF GOVERNORS AND MEMBERS IN EACH YEAR FROM THE ESTABLISHMENT OF THE SOCIETY—*contd.*

Year	President of the Year	Governors		Members			Total
		Life	Annual	Life	Annual	Honorary	
1913	2nd Earl of Northbrook	89	168	2,691	7,474	26	10 448
1914	4th Earl of Powis	89	173	2,626	7,629	28	10 545
1915	Duke of Portland, K G	88	184	2,517	7,313	28	10 130
1916	7th Duke of Richmond and Gordon [K G	83	185	2,427	7,526	27	10 248
1917	Mr Charles Adeane C B	93	210	2,412	8,214	26	10 955
1918	Hon Cecil T Parker	102	224	2,395	8,226	25	10 972
1919	Sir J B Bowen Jones Bart	119	236	2,411	8,558	24	11 348
1920	H R H The Prince of Wales, K G	129	256	2,402	9,208	25	12 020
1921	Mr R M Greaves	137	275	2,374	10 098	24	12 908
1922	H R H The Duke of York, K G	144	287	2,317	10,596	22	13 366
1923	Lt -Col E W Stanyforth	153	293	2,262	10,778	20	13 506
1924	Mr Ernest Mathews C V O	159	289	2,201	10,676	21	13 846
1925	Sir Gilbert Greenall Bart C V O	158	291	2 160	10,949	15	13 573
1926	Lord Desborough, G C V O	155	276	2 103	10,251	15	12 800
1927	Viscount Tredegar, C B E	153	257	2 035	9,343	15	11,803
1928	Lord Harlech C B	155	277	1 972	9,042	16	11,402
1929	Earl of Harewood, K G	154	273	1 914	8,813	16	11 170
1930	H R H The Duke of Gloucester, K G	158	264	1,882	8,491	16	10,811

STATEMENT made to the Council by the Chairman of the Finance Committee, on presenting the Accounts for the year 1930.

Mr. ADEANE, in presenting the Accounts and Balance-sheet, said: We started the year 1930 with a balance of £3,089; the ordinary receipts amounted to £18,023, and other receipts to £1,257, giving a total of £22,369. On the payments side the ordinary expenditure was £17,154, which exceeded the ordinary expenditure in 1929 by £1,699, this is accounted for by the grant of £500 towards the expense of the Tractor Trials and the additions to the house, which amounted to £1,103. Investments and other sums amounted to £2,466, making a total expenditure of £19,610 The credit balance of cash at bankers and in hand at the end of the year amounted to £2,759. There is one unsatisfactory item to which I should like to draw the attention of the Council, and that is the continued fall in subscriptions, which last year amounted to £272 Since 1925 we have lost £1,628 in subscriptions, which gives an average loss of £326 per annum Turning to the Balance-Sheet, the Invested Reserve Fund was £159,515 as compared with £140,294 in 1929, and shows an increase of £19,221. £12,721 of this is due to the rise in the value of our securities, and £6,500 was invested during the year For the present year we estimate the income at £17,994, and the expenditure at £17,906. In the course of the year the Society will probably have to provide £1,000 for the new edition of Fream's "Elements of Agriculture"; for alterations to 16 Bedford Square, £810; and we are providing for the payment of £100 voted by the Council towards the expenses of the Warble Fly investigation, and £50 as a grant towards the expenses of the Butter Marking Order enquiry. The estimated balance at the end of the year is £88. It is satisfactory to know that the whole of the expenses attached to the repairs of this house, together with the alterations and repair of the furniture, amounting to £1,913, will by the end of this year have been paid for out of income. (Hear, hear.) The grant to the University of Cambridge of £1,000 has also been paid.

The Accounts and Balance-sheet were then adopted, together with the Estimate for the ensuing year, which was as follows :—

ESTIMATE OF ORDINARY RECEIPTS AND EXPENDITURE FOR 1931
(Other than in respect of the Show.)

Prepared by direction of the Finance Committee.

Actual figures for 1930.		Estimate for 1931.
£	*Receipts.*	£
10,550	Subscriptions of Governors and Members	10,200
273	Interest on Daily Balances and Deposit Account	250
6,490	Interest on Investments	6,831
195	Sales of Journals, Text Books, Pamphlets, etc.	200
239	Advertisements in Journal	240
52	Income Tax Refunded	78
23	Miscellaneous	—
158	N.D.D. Entry Fees, etc.	150
43	Hire of Council and Committee Rooms	45
18,023		17,994
£	*Expenditure.*	£
4,239	Salaries :—Secretary and Official Staff	4,289
299	Pensions to Officials	299
992	Rent, Lighting, Cleaning, Wages, etc. (say)	1,030
408	Printing and Stationery	450
160	Postage	160
235	Miscellaneous	215
1,835	Journal	1,600
414	Chemical Department	415
250	Botanical Department	250
200	Zoological Department	200
406	Veterinary Department	403
100	Grant to Research Institute, Reading University	100
100	Consulting Engineer	100
394	Examinations for National Diplomas	400
3,500	Amount set aside towards Loss on Shows	3,500
13,532		13,411
£	*Exceptional Expenditure.*	£
1,673	Scientific Research	2,000
1,103	Additions, Alterations, Painting, Cleaning and Repairs to Society's House and Council Chamber	625
—	Repairs and Additions to Society's Furniture	185
18	Library: Binding and Purchase of Books	50
268	Legal Charges and Auditors' Fees (say)	300
16	Certificates and Medals for Long Service and Skilled Labour	25
25	Donation to Young Farmers' Clubs	—
—	"Elements of Agriculture"—on account of new issue	1,000
500	Grant *re* World's Agricultural Tractor Trials	—
16	Dinner to Secretaries of Breed Societies	110
3	Printing "Occasional Notes," Booklets, etc.	50
—	Grant to "Butter Marking Order" Enquiry	50
—	Grant to Leathersellers Company *re* Warble Fly Investigation	100
17,154		17,906

Estimated Receipts	£17,994
Estimated Expenditure	17,906
Estimated Surplus of Receipts over Expenditure	£88

STATEMENT OF RECEIPTS AND EXPENDI-

JULY 8 to

Corresponding figures for 1929. £	Receipts.	£	s.	d.	£	s.	d.
2,000	Subscription from the City of Manchester				2,000	0	0
2,180	Prizes given by Agricultural and Breed Societies and others .	2,221	13	0			
1,440	Prizes given by Manchester Local Committee . . .	1,503	0	0	3,724	13	0
3,620							
—	Contribution from Manchester Local Committee towards cost of fencing to Showground				677	17	3
17	Contribution from Manchester Local Committee to Show Fund				400	0	0
	FEES FOR IMPLEMENTS, MACHINES AND MISCELLANEOUS EXHIBITS:						
11,918	Exhibitors' payments for Shedding and Space . . .	12,886	8	2			
234	Non-Members' Fees for entry of Implements, etc. . .	285	0	0			
150	Fees for entry of "New Implements"	110	0	0	13,281	8	2
12,302							
	FEES FOR ENTRY OF LIVE STOCK:—						
5,373	1,584 Members' Entries @ 3*l*.	4,752	0	0			
2	1 *Member's Entry at 2l.*	—					
2,072	1,367 Members' Entries @ 30*s*.	2,050	10	0			
342	278 Members' Entries @ 1*l*.	278	0	0			
63	43 Members' Entries @ 15*s*.	32	5	0			
21	34 Members' Entries @ 10*s*.	17	0	0			
26	37 Members' Entries @ 5*s*.	9	5	0			
55	Entrance fees	75	1	0			
330	54 Non-Members' Entries @ 6*l*.	324	0	0			
99	28 Non-Members' Entries @ 3*l*.	84	0	0			
10	9 Non-Members' Entries @ 2*l*.	18	0	0			
12	5 Non-Members' Entries @ 30*s*.	7	10	0			
22	17 Non-Members' Entries @ 1*l*.	17	0	0			
1	2 Non-Members' Entries @ 10*s*.	1	0	0			
1	1 Non-Member's Entry @ 5*s*.	0	5	0			
29	*Local Classes*	—			7,665	16	0
8,458							
	FEES FOR ENTRY OF POULTRY:—						
147	Members:—510 Entries @ 5*s*.	127	10	0			
178	Non-Members:—392 Entries @ 10*s*.	196	0	0			
2	Entrance fees	4	0	0	327	10	0
327							
	OTHER ENTRY FEES:—						
140	Produce	197	0	0			
142	Horse-jumping Competitions	177	0	0			
36	Plantations Competition	19	19	6			
13	Orchards and Fruit Plantations Competition . . .	14	0	0			
17	Butter-Making Competition	31	0	0	438	19	6
348							
	CATALOGUE:—						
18	Extra lines for particulars of Implement exhibits . .	10	16	0			
2	Woodcuts of "New Implements"	4	17	6			
1 053	Advertising in Catalogue	997	17	10			
31	Sales of Implement Section of Catalogue	34	5	6			
1,162	Sales of Combined Catalogue	1,003	5	6			
70	Sales of Jumping Programmes and Awards . . .	71	14	6			
2,336		2,122	16	10			
43	*Less*:—Expenses of Sales Superintendent and Assistants .	70	2	5	2,052	14	5
2,293							
£29,365	Carried forward				£30,568	18	4

TURE OF THE SHOW AT MANCHESTER,

JULY 12, 1930.

Corresponding figures for 1929.	**Expenditure.**						
£	COST OF ERECTION AND MAINTENANCE OF SHOWYARD :—	£	s.	d.	£	s.	d.
3,671	Transferring Society's permanent buildings from Harrogate to Manchester (including taking down and re-erecting)	3,452	0	5			
946	Fencing round Showyard	916	13	1			
2,774	Implement Shedding	2,576	15	9			
7,584	Stock Shedding	6,667	17	11			
489	Poultry and Produce Sheds	500	19	9			
647	Dairy	645	3	9			
105	Fodder Shed and Office	116	10	0			
297	Education and Forestry	242	14	4			
842	Grand Stand and Large Ring	1,291	19	7			
954	Various Offices and Stands	938	1	0			
293	Painting Signs and Fixing Ditto, Fencing and Judging Rings	417	16	5			
95	Insurance	95	6	3			
2,834	Hire of Canvas	2,689	12	1			
1,535	General Labour (including Society's Clerk of Works) and Horse Hire	1,167	17	4			
51	Bee Shed	68	0	0			
69	Extra Entrance	60	8	0			
104	Horse-Shoeing Shed	102	7	3			
23,290		21,950	2	11			
37	Less 74 Flagpoles @ 10s.	37	0	0			
					21,913	2	11
23,253							
	SURVEYOR :—						
553	Salary, £500; Travelling Expenses to London, etc., £28 7s. Clerk, £10 10s.; Petty Expenses, £18 19s. 4d.				557	16	4
	PRINTING :—						
683	Printing of Prize Sheet, Entry Forms, Admission Orders, Circulars to Exhibitors, Prize Cards, Tickets and Miscellaneous (including stationery)	657	10	7			
48	Programmes for Members	42	10	3			
911	Catalogue: Printing and paper	909	16	10			
224	Catalogue: Binding	230	17	8			
33	Catalogue: Carriage	17	10	2			
77	Award Lists	65	3	0			
18	Programmes of Jumping Competitions	20	10	0			
					1,944	7	6
1,994							
	ADVERTISING :—						
223	Advertising Closing of Entries in Newspapers	268	18	8			
750	Advertising Show in Newspapers and Cinemas	782	6	0			
795	Billposting	964	7	2			
223	Printing and writing Posters, Window Cards, Stamps, etc.	216	15	10			
					2,232	7	8
1,991							
	POSTAGE, CARRIAGE, &c. :—						
233	General Postage	233	18	6			
62	Postage of Badges to Members	60	13	11			
26	Carriage of Luggage, etc.	23	7	2			
					317	19	7
321							
	AMOUNT OF PRIZES AWARDED,						
12,363	(including £3,724 13s. given by various Societies and Manchester Local Committee)				12,208	13	0
	COST OF FORAGE FOR LIVE STOCK :—						
1,427	Hay, £480 19s. 6d.; Straw, £707 2s.; Green Food, £341 5s. 10d.				1,529	7	4
	JUDGES' FEES AND EXPENSES :—						
671	Judges of Miscellaneous Implements, £16 17s. 4d.; Horses, £56 6s. 10d.; Cattle, £168 19s. 4d.; Sheep, £182 4s. 4d.; Pigs, £53 9s. 4d.; Produce, £49 17s. 8d.; Goats, £8 3s.; Luncheons, £70 14s. 6d.				606	12	4
49	Badges for Judges and other officials				46	2	8
72	Rosettes				72	9	3
£42,694	Carried forward				£41,428	18	7

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STATEMENT OF RECEIPTS AND EXPENDITURE

Corresponding figures for 1929. £	**Receipts** (*contd.*).	£	s.	d.	£	s.	d.
29,365	Brought forward				£30,568	18	4
	MISCELLANEOUS RECEIPTS :—						
2,233	Admissions to Flower Show	1,085	8	5			
2,209	Garage	1,853	1	6			
185	Rent for Railway Offices	185	0	0			
75	Premium for Cloak Rooms	75	0	0			
233	Rent for Ministry of Agriculture Pavilion	170	0	0			
370	Advertisements in Stock Prize Sheet	250	1	2			
67	*Admissions to Hound Show*	—					
6	Miscellaneous	19	4	10			
150	Contribution to cost of "Musical Ride"	200	0	0			
					3,837	15	11
5,618							
	ADMISSIONS TO SHOWYARD :—						
1,874	Tuesday, July 8, @ 10s.	1,219	0	0			
5,601	Wednesday, July 9, @ 5s.	3,554	11	6			
7,222	Thursday, July 10, @ 3s.	4,583	2	5			
2,682	Friday, July 11, @ 3s.	2,214	1	5			
1,212	Saturday, July 12, @ 1s.	1,811	15	1			
1,653	Season Tickets.	386	18	0			
1,274	Day Tickets	502	3	6			
					14,271	11	11
21,518							
	ENTRANCES TO HORSE RING :—						
262	Wednesday, July 9	320	12	0			
253	Thursday, July 10	381	12	6			
219	Friday, July 11	255	4	0			
188	Saturday, July 12	317	4	0			
952	Tickets sold for Reserved Enclosure	671	16	0			
					1,946	8	6
1,874							
	SALES :—						
186	Sales of Produce at Dairy				163	5	2
39	Outstanding Receipts in respect of Harrogate Show				19	3	2
£58,600					£50,807	3	0

Examined, audited, and found correct, this 28th day of November, 1930.

T. B. TURNER, Secretary.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

OF THE SHOW AT MANCHESTER (*continued*).

Corresponding figures for 1929.	**Expenditure** (*contd.*).	£	s.	d.	£	s.	d.
£42,694	Brought forward				£41,428	18	7
	GENERAL ADMINISTRATION :—						
217	*Stewards of Stock and Implements* :—Personal and Railway Expenses	81	0	10			
305	*Assistant Stewards of Stock* :—Personal and Railway Expenses	180	10	2			
521	*Official Staff* :—Extra Clerks, £136 2*s*. 6*d*.; Lodgings, £48 4*s*. 2*d*.; Maintenance of Staff, £63 16*s*. 9*d*.; Travelling Expenses, £16 7*s*.; Secretary's Hotel and Travelling Expenses (including Honorary Director's Expenses), £199 3*s*. 5*d*.	463	13	10			
222	*Finance Office* :—Stewards, £31 2*s*.; Finance Clerk, £11 15*s*.; Grand Stand Men, £60 19*s*.; Turnstile Men, £39; Bank Clerks, £56 14*s*.; Hire of Car, £12 10*s*.; Refreshments, £12 13*s*. 7*d*.; Insurance of Cash Van, £8 10*s*. . . .	233	3	7			
65	Awards Office:—Clerks, £59 15*s*.; Boys, £25 13*s*. . .	85	8	0			
1,330					1,044	2	5
	General Management :—						
164	Foremen and Assistant Foremen	156	13	1			
80	Yardmen	78	7	6			
243	Door and Gate Keepers	177	1	9			
16	*Garage* :—Tents, Offices, Land, etc.	109	15	2			
122	*Veterinary Department* :—Veterinary Inspectors	114	8	7			
110	*Engineering Department* :—Consulting Engineer	110	0	0			
1,151	*Police* :—Metropolitan Police, £1046 14*s*. 8*d*.; Commissionaires, £24 3*s*. 5*d*.	1,070	18	1			
1,886					1,817	4	2
756	*Dairy* :—Steward and Assistant Stewards, £93 10*s*. 6*d*.; Staff, £249 2*s*. 7*d*.; Milk, £187; Ice, £16 10*s*.; Utensils, £92 2*s*.; Engineers, £110 19*s*. 6*d*.; Butter Tests, £33 17*s*.; Labour, £13 17*s*. 8*d*.; Butter and Cheese Boxes, £3 11*s*.; Refreshments, £26 0*s*. 6*d*.; Fuel, £4 17*s*. 6*d*.; Miscellaneous, £6 1*s*. 3*d*.	837	9	6			
9	*Analysis of Cider*	10	10	0			
88	*Poultry* :—Penning and Feeding, £53 13*s*. 6*d*.; Cartage, £14 12*s*. 7*d*.; Judges, £40 18*s*. 11*d*.; Superintendent, £18	127	5	0			
853					975	4	6
670	*Flower Show* :—Steward and Assistant, £27 15*s*.; Manager, £58; Hire of Tents, etc., £466 1*s*. 10*d*.; Judges, £24 12*s*. 1*d*.; Medals, £50 7*s*.; Labour, £27 0*s*. 10*d*.; Carriage and Cartage, £20 12*s*. 8*d*.; Miscellaneous, £4 19*s*. 8*d*. .				679	9	1
102	Plantations Competition				78	0	1
75	Orchards and Fruit Plantations Competition				91	10	4
478	" Musical Ride "				542	16	8
355	*Hound Show*					—	
	GENERAL SHOWYARD EXPENSES :—						
175	Band	170	0	0			
385	Hire of Furniture	135	0	0			
55	Telephone and Call Boxes	50	9	1			
2	Telegraph Facilities	6	8	0			
58	Official Luncheons	65	13	3			
60	St. John Ambulance	65	7	1			
23	Billposting in Showyard	14	10	0			
23	Medals	14	4	6			
38	Engraving and forwarding Cups	46	4	0			
15	Plans, Blocks and Maps	24	15	8			
60	Education and Forestry	173	2	2			
8	Tan	5	0	0			
230	Sleepers	216	8	0			
25	Hire of Tents and Marquee	27	12	6			
20	Weighbridge : Carriage and Erection Charges . . .	18	3	6			
—	Testing New Implements for Silver Medal	72	18	7			
139	Miscellaneous	148	13	3			
33	Gas, Coal and Firewood	26	12	10			
1,349					1,281	2	5
12	Outstanding accounts in respect of Harrogate Show . .				10	19	8
49,804					£47,949	7	11
8,796	Credit Balance				2,857	15	1
£58,600					£50,807	3	0

	£	s.	d.
Credit balance (as above)	£2,857	15	1
Add Contribution from Ordinary Account to Show Fund	3,500	0	0
	£6,357	15	1

STATEMENT OF RECEIPTS AND

Receipts.

Figures for 1929. £		£	s.	d.	£	s.	d.	£	s.
	CASH AT BANKERS AND IN HAND, JANUARY 1, 1930 :—								
1,031	Reserve Fund Account				198	0	0		
2,313	Current Account				2,056	10	3		
383	University Grant Account				655	3	1		
174	Cash in Hand				179	0	2		
3,901								3,088	13
	ANNUAL SUBSCRIPTIONS :—								
1,513	*Governors'* for 1930	1,484	10	0					
9,143	*Members'* for 1930	8,892	6	1					
51	Subscriptions for previous years	51	4	0					
	LIFE GOVERNORS AND MEMBERS :—								
22	Annual Contributions	29	7	0					
10,729					10,457	7	1		
	MISCELLANEOUS :—								
5,983	Interest on Investments	6,490	3	11					
615	Interest on Daily Balances and Deposit Account	273	6	0					
52	Income Tax refunded	52	4	6					
50	Sales of Pamphlets, Farm Account Books, etc.	40	15	7					
1	*Sales of Library Catalogue*	—							
67	Sales of Text Books	75	9	4					
91	Sales of Journals	78	3	7					
225	Advertisements in Journal	238	15	1					
129	N.D.D. : Entry Fees 1930 Exam., Sales of Exam. Papers, and nett receipts in respect of 1929 Exam.	157	19	7					
63	Hire of Council and Committee rooms	43	1	0					
181	Royal Lancashire Agricultural Society : *re* their New Members' privileges for 1930 Show	92	18	6					
—	Miscellaneous	23	4	6					
7,457					7,566	1	7		
18,186	Total of Ordinary Receipts							18,023	
905	Life Compositions of Governors and Members				609	15	0		
105	Donations to Society's Funds				104	15	0		
157	Subscriptions for 1931				135	3	0		
—	Argentine Rural Society—balance owing 1929				66	13	9		
294	Cash received in respect of payments to Willesden Urban District Council				320	14	1		
1	Show Account : for amount owing on Dec. 31, 1929, and printing account paid in 1930				19	19	4		
83	*Rent 12 Hanover Square (less amount paid by Society)*				—				
2,536	*Liquidation of Park Royal Estates, Ltd.*				—				
4,081								1,257	
£26,168								£22,369	

PAYMENTS FOR THE YEAR 1930

Payments.

Figures for 1929. £		£ s. d.	£ s. d.	£ s. d.
	GENERAL ADMINISTRATION :—			
4,262	Salaries : Secretary and Official Staff (including clerical assistance)	4,239 0 0		
288	Pensions to Officials	298 12 2		
250	Legal Charges and Auditors' Fees, etc.	268 2 6		
843	Rent, Rates, Taxes, Insurance and House Expenses	992 10 1		
467	Printing and Stationery	407 18 11		
187	Postage	160 4 5		
186	Advertising and Miscellaneous Office Expenses	225 11 9		
6,483			6,301 19 10	
	JOURNAL OF THE SOCIETY :—			
	Cost of Volume 90:—			
919	Printing and Binding	1,030 1 3		
291	Postage	286 17 8		
354	Editing and Literary Contributions	303 8 6		
14	Illustrations	18 4 10		
1,608		1,728 12 3		
—	On account of Volume 91	106 5 6		
1,608			1,834 17 9	
10	Advertising Farm Account Books		9 12 6	
	LABORATORY :—			
412	Salary and Petty Cash		414 6 5	
	OTHER SCIENTIFIC DEPARTMENTS :—			
250	Botanist's Salary	250 0 0		
200	Zoologist's Salary	200 0 0		
100	Consulting Engineer	100 0 0		
400	Grant to Royal Veterinary College; and fees re meeting	403 0 0		
100	Grant to Research Institute, Reading	100 0 0		
2	Medal for Proficiency in Cattle Pathology	2 15 0		
1,052	NATIONAL DIPLOMA IN AGRICULTURE :—		1,035 15 0	
291	Honoraria and Expenses of Examiners	289 6 2		
97	Travelling Expenses of Officials	68 15 2		
108	Hotel Expenses of Examiners and Officials	114 17 0		
65	Printing, Stationery, Diplomas and Postage	105 18 0		
7	Hire of Premises	7 7 0		
75	Salary for Assistant	75 0 0		
643		661 3 4		
493	*Less* Entry Fees and Sales of Examination Papers	458 7 0		
150		202 16 4		
75	*Less* amount paid by Highland and Agricultural Society	101 13 9		
75			101 2 7	
	NATIONAL DIPLOMA IN DAIRYING :—			
148	Honoraria and Expenses of Examiners	135 14 8		
52	Hotel and Travelling Expenses	73 8 6		
102	Printing, Diplomas, Postage, and allowance for assistant	63 10 4		
41	Hire of Premises	20 0 0		
	(For Entry Fees, Sales of Exam. Papers etc., see contra.)			
343	EXTRA EXPENDITURE :—		292 13 6	
1,728	Grant to Research Fund	1,073 10 5		
—	Grant re World's Agricultural Tractor Trials	500 0 0		
59	Library : Binding and Purchase of Books	17 12 0		
—	Additions, Alterations, Painting and Repairs to house	1,102 12 7		
26	*Repairs to Furniture*	—		
17	Certificates and Medals for Long Service	15 10 0		
61	*Printing Farm Account Book and "Lambing Pen"*	—		
25	Printing "Occasional Notes"	3 4 6		
—	Donation to Young Farmers' Clubs	25 0 0		
56	*Installing new inter-office 'phones*	—		
—	Dinner to Secretaries of Breed Societies	16 2 6		
1,972			3,354 1 0	
3,500	Amount set aside towards Loss on Shows		3,500 0 0	
15,455	Total of Ordinary Payments			17,154 8 7
67	*Argentine Rural Society*		—	
584	Payments to Willesden Urban District Council		454 5 4	
2,704	Transfer to Deposit Account		542 4 11	
1,778	*Purchase of 5 per cent. War Stock*		—	
2,481	Purchase of 3½ per cent. Conversion Stock		300 0 0	
—	Additions to Show Plant		87 15 0	
9	Postage, etc., *re* Show Account		7 7 10	
1	*Refund of Subscription paid in Advance*		—	
—	Rent, 12 Hanover Square (less amount received)		82 10 0	
—	Grant to Cambridge University re Rockefeller Foundation		981 12 8	
7,624				2,455 15 9
	CASH AT BANKERS AND IN HAND, DECEMBER 31, 1930 :—			
198	Reserve Fund Account		2 15 0	
2,057	Current Account		2,597 9 2	
655	*University Grant Account*		—	
179	Petty Cash in Hand and at Bank		158 13 10	
3,089				2,758 18 0
26,168				£22,369 2 4

Examined, audited and found correct,
PRICE, WATERHOUSE & CO.,
Chartered Accountants,

'REDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
10 *February* 1931

Dr. BALANCE SHEET,

Figures for 1929.		£	s.	d.	£	s.	d.	£	s.	d.
£	To SUNDRY CREDITORS—									
2,426	Sundry accounts owing				2,400	6	6			
157	Subscriptions received in 1930 but belonging to 1931				135	3	0			
								2,535	9	6
2,583										
	To CAPITAL and RESERVE FUND:—									
141,896	As at December 31, 1929				152,130	17	5			
	SHOW FUND—									
8,796	Surplus on Manchester Show	2,857	15	1						
3,500	Contribution from Ordinary account	3,500	0	0						
					6,357	15	1			
12,296										
905	Life Compositions received in 1930				609	15	0			
105	Donations towards the Society's Funds				104	15	0			
158	Subscriptions for 1930 received in 1929				157	4	0			
2,730	Excess of ordinary receipts over payments for the year 1930				869	0	1			
2,536	*Received on Liquidation of Park Royal Estates, Ltd.*				—					
160,626					160,229	6	7			
(less) 7,812	*Add:* Appreciation on Investments				12,721	17	5			
152,814					172,951	4	0			
—	*Less:* Grant to Cambridge University re Rockefeller Foundation				981	12	8			
152,814					171,969	11	4			
95	*Less* Adjustment in respect of outstanding Assets and Liabilities				259	7	0			
152,719					171,710	4	4			
	DEPRECIATION written off, viz.:—									
12	Fixtures	11	10	10						
30	Furniture	26	10	0						
375	Show Plant	337	14	6						
100	Lease of 16 Bedford Square	100	0	0						
71	*Books*	—								
588					475	15	10			
								171,234	8	
152,131										
£154,714								£173,769	18	0

NOTE—There are commitments in respect of Contracts entered into in connection with the forthcoming Show.

T. B. TURNER,
Secretary.

DECEMBER 31, 1930

Cr.

Figures for 1929. £		£	s.	d.	£	s.	d.
	By RESERVE FUND—						
108,751	154,609*l.* 4*s.* 11*d.* Conversion Loan 3½ per cent. (1961) @ 81¾*	126,393	1	2			
683	500*l.* War Savings Certificates*	708	6	5			
2,424	3,909*l.* 10*s.* Local Loans 3 per cent. (1912) @ 67½*	2,639	2	3			
2,358	2,840*l.* 13*s.* 6*d.* Metropolitan 3 per cent. Consolidated Stock (1941) @ 91*	2,585	0	3			
5,745	6,528*l.* 1*s.* 6*d.* Canadian 4 per cent. Stock (1940–1960) @ 94*	6,136	7	9			
17,839	15,294*l.* 13*s.* 2*d.* War Loan 5 per cent. (1929–1947) @ 103*	15,753	10	0			
2,494	5,000*l.* Conversion Loan 5 per cent. (1944–1964) @ 106*	5,300	0	0			
140,294	* Market value at December 31, 1930.				159,515	8	1
	By LEASE OF 16 BEDFORD SQUARE	700	0	0			
	Less Amount written off in 1930	100	0	0			
700					600	0	0
	By FIXTURES, FITTINGS, etc.—						
	As at December 31, 1929	153	17	4			
	Less Depreciation at 7½ per cent.	11	10	10			
154					142	6	6
	By FURNITURE—						
	As at December 31, 1929	265	4	10			
	Less Depreciation at 10 per cent.	26	10	6			
265					238	14	4
1,500	By PICTURES (500*l.*) and BOOKS (1,000*l.*)				1,500	0	0
	By SHOW PLANT—						
	As at December 31, 1929	3,377	5	4			
	Added during year	87	15	0			
		3,465	0	4			
	Less Depreciation at 10 per cent.	337	14	6			
3,377					3,127	5	10
1,639	By EXPENDITURE (less amounts received) ON WARWICK SHOW				1,680	11	3
703	By SUNDRY DEBTORS				510	6	7
68	By RATES PAID IN ADVANCE AND INCOME TAX RECOVERABLE				91	11	2
	By CASH AT BANKERS AND IN HAND—						
	ORDINARY ACCOUNT—						
198	Reserve Fund Account	2	15	0			
2,057	Current Account	2,597	9	2			
655	*University Grant Account*	—					
3,000	Deposit Account	3,700	0	0			
179	Petty Cash in Hand and at Bank	158	13	10			
6,089		6,458	18	0			
75	*Less* SHOW ACCOUNT—Overdrawn	95	3	9			
6,014					6,363	14	3
£154,714					£173,769	18	0

Examined, audited and found correct,

3 Frederick's Place,
Old Jewry, London, E.C.2.
10 *February*, 1931.

Price, Waterhouse & Co.,
Chartered Accountants,
Accountants & Auditors.

Royal Agricultural Society of England.

STATEMENTS OF FUNDS HELD BY THE SOCIETY IN TRUST OR WHICH ARE NOT CONSIDERED AVAILABLE FOR GENERAL PURPOSES, DECEMBER 31, 1930.

E. H. HILLS' BEQUEST.

	£	s.	d.	£	s.	d.		£	s.	d.
To amount bequeathed for Pot-culture Experiments .				9,000	0	0	By 7,222*l.* 15*s.* 0*d.* 3½% Conversion Loan Stock (1961) (purchased on sale of War Loan Stock) at cost .	5,816	1	10
Less : Depreciation of Consols at time of conversion . .	3,582	7	11				(*Value December* 31, 1930, at 81¾ = 5,904*l.* 11*s.* 11*d.*).			
,, Cost of conversion . .	134	14	7							
				3,717	2	6				
				5,282	17	6				
To surplus on sale of 5% War Loan Stock . . .				333	4	4				
				£5,616	1	10		£5,616	1	10

QUEEN VICTORIA GIFTS FUND.

	£	s.	d.		£	s	d.
To Fund invested (the income from this Fund is used to make Annual Grants to unsuccessful applicants for pension through the Royal Agricultural Benevolent Institution)	5,000	0	0	By Investments in names of Trustees at cost			
Undistributed Income	84	13	3	1,000*l.* Dominion of Canada 3% Inscribed Stock.	1,062	14	0
				1,000*l.* Victorian Government 5% Inscribed Stock 1932–1942	1,070	4	4
				1,000*l.* New South Wales Government 5% Inscribed Stock, 1935–55	1,095	5	6
				1,000*l.* London Midland & Scottish Railway Consolidated 4% Guaranteed Stock	1,556	15	9
				190*l.* 4*s.* 6*d.* 2½% Consols	215	0	5
					5,000	0	0
				By Cash at Bank, December 31, 1930	84	13	3
	£5,084	13	3		£5,084	13	3

The market values of the Stocks on December 31, 1930, amounted to 3,309*l* 7*s.* 7*d.*

STATEMENT OF FUNDS HELD BY THE SOCIETY IN TRUST—*continued.*

GILBEY FUND.

	£	s.	d.
To Amount provided by the late Sir Walter Gilbey for endowment of Lectureship at Cambridge University	1,000	0	0
Accumulation of Interest	204	10	4
	£1,204	10	4

	£	s.	d.
By Investment at cost :—			
1,457*l.* 5*s.* 2*d.* Metropolitan Water "A" Stock	1,204	10	4
(*Value on December* 31, 1930, at 69 = 1,005*l.* 10*s.* 2*d.*)			
	£1,204	10	4

SUPERANNUATION AND INSURANCE FUND.

	£	s.	d.	£	s.	d.	£	s.	d.
To amount set aside in accordance with declaration of Trust of July 26, 1911				9,171	5	0			
Less : Depreciation of Consols at time of conversion .	1,837	18	4						
,, Cost of conversion	256	3	0						
				2,094	1	4			
							7,077	3	8
Add : Purchase of 1,367*l.* 14*s.* 9*d.* 5% War Loan Stock at cost							1,167	0	0
							8,244	3	8
Accumulation to December 31, 1930							1,255	2	0
Income Tax payable on War Loan Stock Interest							187	8	6
							£9,686	14	2

	£	s.	d
By Investments in names of Trustees, at cost :—			
8,817*l.* 7*s.* 1*d.* 5% War Loan Stock (1929–1947) .	8,244	3	8
728*l.* 2*s.* 4*d.* West Australian 3½% Stock (1935–1955)	559	17	4
640*l.* 3*s.* 9*l.* Queensland 3½% Stock (1950–1970)	467	2	3
	£9,271	3	3
By Cash at Bank, December 31, 1930	415	10	11
	£9,686	14	2

The market values of the Stocks on December 31, 1930, amounted to 9,868*l* 13*s*. 0*d*.

"MERCHANTS OF THE STAPLE OF ENGLAND" FUND.

	£	s.	d.
To capital sum paid by the "Merchants of the Staple of England" for the purpose of providing out of the yearly income Prizes to be competed for annually in the Wool Section of the Royal Show . .	500	0	0

	£	s.	d.
By Investment at cost :—			
503*l* 1*s*. 9*d.* New South Wales Government 5% Inscribed Stock, 1935–55	500	0	0
(Value on Dec. 31, 1930, at 72½ = 364*l.* 14*s.* 9*d.*)			

Examined, audited and found correct,
PRICE, WATERHOUSE & CO.,
Chartered Accountants,
Accountants & Auditors.

3 FREDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
10 *February*, 1931.

Royal Agricultural Society of England.

RESEARCH COMMITTEE.

RECEIPTS AND PAYMENTS FOR YEAR 1930.

RECEIPTS.	£	s.	d.
To Grant from General Account	1,673	10	5
,, Sales of copies of *Agricultural Research* . .	44	10	3
,, Advertisements in *Agricultural Research in 1928* .	58	10	0
	£1,776	10	8

PAYMENTS.	£	s.	d.	£	s.	d.
By Grants to Research Institute in Animal Pathology, Royal Veterinary College, for Research re Mastitis in Cows				300	0	0
,, Grants to Rothamsted Experimental Station for Lucerne Seed Inoculation Experiments .				50	0	0
,, Grants to Rothamsted Experimental Station re collating Woburn Farm data . . .				250	0	0
,, Grants to Norfolk Agricultural Station for Malting Barley Experiments				300	0	0
,, Grant to Norfolk Agricultural Station for Sugar Beet-Top Feeding Trials				50	0	0
,, Grant to South Eastern Agricultural College for Chicken-rearing Experiment . . .				150	7	10
,, Medal and Grant for Essayist				11	17	6
,, Editing " Occasional Notes "				20	0	0
,, *Agricultural Research in 1928*—Postage and Editing				33	19	6
,, *Agricultural Research in 1929* :—						
Printing and Binding . . .	183	11	9			
Honoraria to Contributors and Editor	380	0	0			
Postage	29	19	10			
Miscellaneous	16	14	3			
				610	5	10
,, Miscellaneous Expenses				—		
				£1,776	10	8

Examined, audited and found correct,
PRICE, WATERHOUSE & CO.,
Chartered Accountants,
Accountants & Auditors.

FREDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
10 *February*, 1931.

[Copies of the full Report of any of the Council Meetings held during the year 1930, may be obtained on application to the Secretary, at 16 Bedford Square, London, W.C.1.]

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Minutes of the Council.

WEDNESDAY, FEBRUARY 5, 1930.

H.R.H. THE DUKE OF GLOUCESTER, K.G. (President), in the Chair.

The PRESIDENT: My Lords and Gentlemen, before commencing the ordinary business of the Council this morning, it is my sad duty to refer to the loss that this Council and the Society in general have sustained through the death of Sir Edward Curre. Sir Edward Curre was elected a member of the Society in 1888 and a Governor in 1919. In 1927 he succeeded the late Mr. L. C. Wrigley as the representative for Monmouthshire. Most of you will remember the great help afforded by him to the Society in the year 1927 when the annual show was held at Newport, and his cheery and amusing speeches in proposing Lord Tredegar as President for that year and at the end of the year when thanking the President for his services. Although Sir Edward was a silent member of the Council he did a tremendous amount of practical work, and his death is a distinct loss to us. I have no doubt that it will be your wish that the Secretary should send from the Council a letter to Lady Curre conveying our sympathy and condolence. I will ask you to rise in your seats for a moment to signify our sense of loss.

The members rose accordingly.

Three new Governors and 33 new members were admitted into the Society.

Mr. BROCKLEHURST, in moving the adoption of the CHEMICAL Committee's report, drew the attention of the Council to two cases of trouble arising from the castor-oil bean in cake. They were serious, and the Committee felt, with regard to feeding stuffs coming into the country, that proper precautions were not taken to have this cake rejected. They considered that, if possible, steps should be taken to counteract what, in the two cases in question, was really a very serious state of affairs. They did not know what could be done, but they were bearing the matter in mind and hoped before long to be able to do something in the direction indicated.

In presenting the Report of the VETERINARY Committee, Sir MERRIK BURRELL said it was gratifying to notice that while last year there were 210 outbreaks of sheep scab there were now only 151. That there had been 151 outbreaks in the four weeks ended January 15 was, of course, bad, but the position was better than it was twelve months ago, and he thought that the Council could take that as a sign that the work which the Society did last spring and in the early summer was not wasted.

The position with regard to swine fever was very bad, and it was rather doubtful whether anything could usefully be done. The disease appeared to be one of those about which extremely little knowledge existed as to its origin, how to prevent it or how to cure it. The Veterinary Committee had got into touch, or was getting into touch, with the Veterinary Department of the Ministry of Agriculture, and all possible steps would be taken to see that anything that could be done was done.

Mr. BURKITT, in moving the adoption of the report of the DAIRY AND PRODUCE Committee, stated that his Committee had requested him to draw attention to a comment by Dr. Voelcker in view of constant criticisms with regard to the cleanliness of the British milk supply by the medical profession and others. The attacks were very largely unjustifiable. Dr. Voelcker had said that in his experience in recent years he had very rarely had samples of milk that might be described as unclean. That evidence was supported by Dr. Stenhouse Williams, who was well known to members of the Council as perhaps the most prominent man in the promotion of a clean milk supply. The evidence was most important to the dairying industry generally, and the Committee felt that attention should be drawn to it.

Sir MERRIK BURRELL, in moving the adoption of the RESEARCH Committee's report, said he thought it would interest the Council to know that cultures for lucerne inoculation could now be obtained from Messrs. Allen and Hanburys, instead of, as in the past, from Rothamsted. Rothamsted issued last year 1,933 cultures, which were sufficient to inoculate over 12 tons of lucerne seed, or enough to sow about 2,250 acres with lucerne. It was evident that work on the question of the inoculation of lucerne seed was bearing good fruit, and would enable the agriculturists of this country to grow more and more of that extremely valuable crop. He would emphasise the fact that in future those who wanted cultures should apply to Messrs. Allen and Hanburys.

Sir ARCHIBALD WEIGALL: Your Royal Highness, before you put to the meeting the motion for the adoption of the report, may I say a word or two in amplification and explanation of the resolution standing in my name? As a very humble member, I took it on myself to put the resolution down for—to be perfectly candid—personal reasons. I believe that much of the good work that has been done by the Research Committee has, second to Mr. Adeane, resulted from the efforts of Lord Bledisloe. The Council may ask what are the personal reasons. Thirty-seven years ago Charles Bathurst and I were students together at the Royal Agricultural College, and he had a brilliant career there, which has fulfilled its promise ever since both in and out of Parliament. Although I do not pretend that I have always agreed with everything that he has set his hand to, I have been lost in envy and admiration of his immense industry and also his persistency and consistency in endeavouring to instil into an urban-minded community some land and agricultural sense. Lord Bledisloe is now crowning his career by going to a Dominion where at any rate he will have the satisfaction of seeing that primary production is of paramount importance. Whatever political party is in office in New Zealand, when Lord Bledisloe presides over his Cabinet he will find that, unlike the state of affairs in this country, the words of the Agricultural Minister will count for something. (Laughter and cheers.)

There is one thing which will present no terrors to Lord Bledisloe—I refer to the question of speech-making; but I fear that it may be shorn of some of its purer joys, as he will be expected to make speeches on all subjects, but to express opinions on none. (Laughter.) However, I feel perfectly confident that his term of office in New Zealand will be of immense advantage to the Dominion, and of enormous credit to himself.

All I ask, in conclusion, is that when I see him off next week I may be allowed to wish him Godspeed in the name of the Council of the "Royal." (Applause.)

Sir MERRIK BURRELL moved the adoption of the QUARANTINE STATION Committee's report. He was glad to be able to say that the station continued to run well. He visited it at intervals and never had anything to complain of with regard to the way in which it was managed. If the flow of animals through the station continued at the present rate, approximately 50 per cent. more animals would pass through in the second year of the working of the station than in the first. He had been in personal communication with Dr. Grisdale, deputy to the Minister of Agriculture for Canada. Unfortunately, Dr. Motherwell had been laid up with pneumonia. He was glad to say that Canada intended to send their Chief Veterinary Officer to this country during the summer, and the promise had been made that while he was here he would look into the matter himself. Dr. Motherwell on his visit a year or two ago had made a similar promise. He (Sir Merrik) very much hoped that when the Chief Veterinary Officer for Canada saw how the Quarantine Station was conducted and the success which it was having he would be able to advise the Government of Canada to come into the scheme. If Canada came in, the only part of the British Empire not taking advantage of the Quarantine Station would be New Zealand. It might perhaps seem odd to the Council that Canada should have stayed out for so long, but it must be realised that with her neighbour, the United States, taking a considerable number of pedigree cattle and a vast number of commercial cattle from Canada, it was quite right that that country should move with caution and watch the efforts here to establish a really safe Quarantine Station before taking permanent steps. He hoped now to be able to satisfy those concerned that they could with advantage join in.

The SECRETARY reported that the Showyard Works Committee had instructed the Surveyor to make inquiries of the Parks Committee of the Manchester Corporation into the question of the provision of seats round the bandstand in the Showyard. The provision of such seats had been suggested by Colonel Disbrowe-Wise at the annual general meeting.

The suggestion of Mr. R. S. Walters that the time had arrived when the entry fees for live stock should be reduced had been considered by the Stock Prizes Committee and referred to a Special Sub-committee to be appointed to draw up the prize-sheet for the Warwick Show in 1931.

On a motion from the chair, the seal of the Society was ordered to be affixed to (1) the agreement with the Corporation of Warwick for the holding of the Show in that place in 1931, and (2) a form of request in connection with the conversion of £2,500 5 per cent. War Stock into the new 5 per cent. Conversion Loan.

WEDNESDAY, MARCH 5, 1930.

LORD HARLECH (Trustee) in the Chair

In the absence of H.R.H. the Duke of Gloucester, K.G. (President), Lord Harlech was called to the chair, on the motion of Mr. ADEANE, seconded by Lord DARESBURY.

Two Governors and twenty-three new members were elected.

Mr. ADEANE having moved the adoption of the report of the FINANCE Committee,

Mr. F. H. THORNTON said he found it very difficult to induce the hunting men in his county to subscribe to the Society as they should do. Only two had replied to the circular letter he sent to them last year, although he thought the appeal was a fairly good one. This year a letter had been sent by the Duke of Gloucester, but the result so far was not as satisfactory as it ought to have been. He could not help thinking that if a letter was written to the *Field* by the President or an ex-President, explaining how beneficial the Society was to agriculture and farmers generally, it might have a very good effect. The Society did much to support and to benefit farmers and hunting men. It did a great deal in support of research, and its horse show was of inestimable value to those who wanted good hunters. As all those people read the *Field*, a letter sent to that journal on the lines suggested ought to have a good deal of effect.

Sir **Douglas Newton** suggested that if the accounts were circulated before the meeting it would be easier to follow them. It was clearly impossible for anyone to make an intelligent criticism or suggestion concerning accounts which had just been submitted and read out, and which were very complicated and very far-reaching, and which covered a very large expenditure. Even if any criticism were required, which he thought was not the case, he would have been unable to offer it at such short notice; but he would like to make an observation regarding the investments. He understood that there had been a loss of nearly £8,000 on the investments. That was a large figure, and he thought that the Society ought to guard against such losses. It was important to maintain the capital value of the funds. That was not a very difficult thing to do if stock redeemable at par in a certain period of years was bought. In that way the capital would not only be maintained but actually appreciated. He suggested that this point should be considered by the Finance Committee when any further investment was contemplated.

Mr. **Adeane** thought that all investments held by the Society were in redeemable stock. When the stocks were valued at the end of the year in question they showed a temporary loss. He hoped that at the end of the current year they would be back at the old level. They were Government stocks which were redeemable.

Sir **Douglas Newton** said that Mr. Adeane had given a complete answer.

On the presentation of the Report of the **Dairy and Produce** Committee, Sir **Douglas Newton** drew attention to a prevalent and growing practice of blending butter sold under various proprietary names, generally well known and possibly famous for the quality of the butter and other agricultural products which bore them. The suggestions made by the labels were, first, that the butter was English, and secondly, that it came from districts which were famous for their butter. The imports of butter into the country were on a very heavy scale, the figures for the last recorded year showing that over 320,000 tons of such agricultural produce was imported, with a value of over £54,000,000. It was understood that something like 80,000 tons, a quarter of the total imports, was used for blending purposes. It was a strange fact that although no less than 219,000 cwt. of butter came from Russia last year, and 302,000 cwt. from Finland, Sweden, France and the Argentine, yet when blending had taken place one could not find that any of those nations had sent any butter to this country. That indicated that it was camouflaged by being sold under an English name. He understood that 3*d.* or even 4*d.* per lb. more could be got as the result of blending such butter and selling it under a different label. Whether that was the actual gain he did not know, but the gains must be substantial or those concerned would not take the trouble to do it. As a result of this practice, the public were under the impression that they were buying English butter, and were paying approximately £2,000,000 more for it than they otherwise would do. The public bought that butter mainly because they wanted to support home trade, and paid at least 3*d.* per lb. more for upwards of 80,000 tons of blended butter which was not English at all. He suggested that butter of Empire origin was seriously affected by this unfair competition of inferior foreign butter. And the home trade was being strangled to a great extent by this development of blending. He ventured, with great respect, to suggest that the matter should receive the careful attention of the Dairy Committee, who should consider what steps could be taken to deal with the situation. Questions had been asked in Parliament, and the Minister of Agriculture had replied to the effect that he thought that help might be given as the result of a marking scheme; but before effect could be given by his Department to a marking scheme application must be made by responsible agricultural bodies. It appeared that no such application had yet been made, though he did not know why. Perhaps there was another side to the case which had not reached his ears. In conclusion, he moved that the matter be referred to the Dairy Committee.

The CHAIRMAN, in reply to Sir ARCHIBALD WEIGALL, said that a special resolution to that effect was not necessary.

Sir DOUGLAS NEWTON pointed out that he only wanted the matter to be considered by the proper committee.

The CHAIRMAN said that the Chairman of such Committee would take notice of what had been said, and the matter would be placed upon their agenda for the next meeting.

WEDNESDAY, APRIL 2, 1930.

H.R.H. THE DUKE OF GLOUCESTER, K.G. (President), in the Chair.

The PRESIDENT said that before commencing the ordinary business of the Council it was his sad duty to refer to the loss the Society had sustatined in four of its old and staunch supporters. He referred first to the Earl of Coventry, who was a Trustee of the Society. Lord Coventry had been a member since the year 1863 and a Trustee since 1885. He knew that his lordship's association with the activities of the Society was not the least of the many things in which he was interested. Lord Coventry was rather proud of the fact that his birthday coincided with the foundation of this Society in 1838, and throughout the whole of his association with it and with the Council his one desire was worthily to uphold the traditions of the Society. Lord Coventry was most regular in his attendance at the Council meetings until the last few years, when his health prevented him from getting up to town. He was also a regular exhibitor of Hereford cattle, and made a point of filling in the entry forms for the Royal Show in his own handwriting, so that no mistake could possibly arise and no additional trouble be thrown upon the Show staff. In the passing of Lord Coventry the Society lost one of its oldest and most honoured members.

The Hon. Edward G. Strutt was also a very old member of the Society and represented Essex upon the Council for a period of six years. He had made such a name for himself in agriculture throughout the country that it would ill become him (the President) to endeavour at this meeting to eulogise all that Mr. Strutt had meant to the industry.

Mr. Jonas Webb, although not a member of the Council of the Society, was very closely connected with the breeding and exhibition of pedigree stock. His family name was a household word where breeding cattle and sheep was spoken of. Mr. Webb was a very old member of the Society and acted as one of its elective auditors for a number of years; only ceasing that work in the year 1925, when a change in the system of keeping the Society's accounts abolished the necessity of honorary auditors. Mr. Webb was then made an honorary Life Governor of the Society in recognition of the services he had rendered.

Mr. Martin Sutton was a Governor of the Society. His family and the firm with which his name was connected had long associations with the Society and its annual Shows.

The PRESIDENT felt sure that all present would join him in expressing the deep regret of the Council at the passing of those stalwarts, and he would ask the Council to authorise the Secretary to send to the relatives of the Nobleman and Gentlemen he had referred to a letter assuring them of the Council's sincere sympathy in their bereavement.

The motion was agreed to in silence, all present standing.

One new Governor and 59 new members were admitted into the Society.

Mr. ADEANE, in moving the adoption of the report of the FINANCE Committee, stated that they had adopted with great pleasure the suggestion made at the last meeting by Sir Douglas Newton that the accounts should be circulated to members of the Council some days prior to being brought before the Council itself. There was, however, one difficulty, though he did not know that it was a very serious one. Heretofore the accounts had been put before the Finance Committee to be passed for audit in February. Then they came before the Committee to be passed, as audited, for presentation to the Council in March. If any question arose and the Auditors wanted any explanation, or anything else happened about which the Finance Committee had to be consulted, it might mean a delay of one month in presenting the accounts. Heretofore an endeavour had been made to get the accounts out and printed so as not to delay the publication of the Journal. He did not think that difficulty would arise.

Colonel STANYFORTH, referring to the arrangement for the testing of new implements in future, said it would not be necessary to spend an extra £150 each year, but simply the difference between the entrance fee and the testing fee.

Sir MERRIK BURRELL, in presenting the VETERINARY Committee's Report, explained that the letter from the Ministry of Health really referred to an Order issued in 1923 forbidding the exhibition of animals from herds whose milk was sold as tubercle-free under a licence at any show at which cattle which had not been tuberculin-tested were shown. That Order was made known to those concerned with the milk, but it was not made generally known to those responsible for the organisation of shows, with the result that a good deal of confusion had been caused, and a certain number of people who held licences to sell tuberculin-tested milk had been showing contrary to the terms of the Order.

The attention of the Minister had been called to the fact. The letter now issued was not a new Order, but merely enforced one which had been in existence for seven years. Unfortunately, an extremely awkward time of year had been chosen for the purpose, when the arrangements for most shows had already been made, and it was very difficult to meet the requirements of the Minister. The most unfortunate effect would be that people with pedigree herds producing tuberculin-tested milk under licence would probably throw up their licences. It was a better business proposition for them to have the shop window of the showyard for their pedigree herds than it was merely to sell T.T. milk. That was a most unfortunate thing, and it was extremely difficult to see how it was to be obviated this year.

As the Council had heard, Lord Daresbury, Mr. Burke and himself were going to see the Minister of Health, Mr. Greenwood, that afternoon to try to find a possible way out. The Council would agree that it would be more than unfortunate if the show system acted in any way, even to a small extent, as a deterrent to the production of milk under the Ministry of Health licence for the public. (Hear, hear.) Therefore the matter could not be treated lightly, and a way out of the present difficulty had somehow or other to be found. It was obviously too late to deal with it effectively this season, but their representatives hoped that they might be able to come to some arrangement with the Minister that might be satisfactory in the future. But before any very definite decision was taken as to the best line for the Society—which, after all, led all other agricultural societies—to adopt, the Veterinary Committee thought it would be wise to call a conference of all the more important show societies and the cattle breed societies and to talk the situation over with them after the opinion of the Minister had been ascertained. That was how the matter stood. It might take some little time to clear the matter up, but he hoped it would be possible to do that before the next show season.

Colonel STANYFORTH, having moved the adoption of the IMPLEMENT

Committee's report, said that the Council would have heard the amount of shedding that had been taken for the coming Show. Although not so great in number of feet as in the last two or three years, it was greater in money inasmuch as more stands had been taken in the machinery-in-motion section, which was a more expensive one. That was very satisfactory. He would also remind the agricultural community generally of the trial of Agricultural Tractors in the autumn, at which there would be over thirty entries. The public demonstration would take place near Oxford on September 16 to 19 (both days inclusive), during which the entrants would be required to give a demonstration of their machines in work from 10 a.m. to 5 p.m. daily. It was a feature which agriculturists might bear in mind.

The Report of the COMMITTEE OF SELECTION AND GENERAL PURPOSES, including a recommendation that H.R.H. The Duke of Gloucester be elected a Trustee, was received and adopted.

The PRESIDENT thanked the Council very much for electing him a Trustee. He was sure they were all very pleased to welcome Lord Treowen and Mr. E. F. Fieldhouse, newly-elected members of the Council.

In moving the adoption of the report of the DAIRY AND PRODUCE Committee, Mr. BURKITT said it was understood that there had been considerable criticism from the Ministry of Agriculture regarding the educative nature of the work at the Dairy in the Society's Showyard. He therefore got into communication with Mr. Blackshaw, who was Commissioner for Dairying, and asked for suggestions as to how the work might be improved. Mr. Blackshaw replied, dividing his suggestions into three sections. The first had regard to instruction in butter-making, and the Society was going to try to do something in that direction. The second had reference to clean milk instruction and demonstration. The Showyard at Manchester would be so absolutely packed to the doors that space could not possibly be afforded for an extra stand for the purpose. Therefore that suggestion could not be adopted. The third suggestion had regard to the manuring of grass land and other things which the Committee thought were rather better dealt with in the Agricultural Education Section, because there was not room in the Dairy Section. At the same time, he would like to express the thanks of the Committee to Mr. Blackshaw for his suggestions, more of which would be adopted if possible in the future.

The Committee heartily endorsed what Sir Douglas Newton had said about the practice, which was largely followed, of blending a small proportion of English butter with a very large proportion of foreign butter and selling the result as an English product. Nobody could do less than condemn that. It was understood that there was an agreed Bill before Parliament, and it was hoped that in the limited time at the disposal of Parliament the Bill would squeeze through. It would certainly amend the position. But the Society had an ancient Royal Charter, which caused it to walk very delicately in such questions, and therefore the Committee had drafted its motion in the mildest manner possible in order that the Society might not be accused of interfering with any political party or anything of the sort.

He knew that Sir Archibald Weigall had very strong opinions on the subject, and he therefore would not deal further with the point. Sir Archibald was more Cassius-like than himself, and would be more combative and provocative, so he would leave that side of it to him.

Sir ARCHIBALD WEIGALL said he would endeavour to be as meek and mild as the resolution which stood in his name. He thought an apology was due to the Council. At the last meeting they were full of fulmination against an action which must be condemned by everyone who had at heart the future of agriculture. Sir Douglas Newton, who was unable to be present, had asked him to see the matter through the Dairy Committee. He agreed, and placed on the order paper a resolution identical in terms with the one passed a week ago by the Agricultural Committee of the House of Commons, out of which an agreed Bill evolved which had been given a first reading. The Dairy Committee said at once: "Of course we agree with every word of your resolution. But you know that we have a self-imposed and self-denying ordinance that prevents us from ever giving assistance or advice to legislators." He therefore accepted the position and apologised for the result—the resolution as it was now before them.

He would be out of order if he pursued the general topic. Suffice it to say that he felt very strongly on the matter. There was another instance of the same kind of thing which happened at the Veterinary Committee when the Milk Designations Order of 1923 was discussed. He had asked then why the Royal did not know about it, and the reply was: "We have never been informed; we have no connection with the Legislature." He felt so strongly that he had put his opinion on paper. That had gone to the proper authority, and he had no doubt that in due time the Council would have an opportunity of fully discussing it.

In conclusion, he had moved for two reasons—firstly, that he hoped he had at heart the interests of the Royal in these democratic days; and, secondly, because he wanted Parliament in future to have the benefit of the education which the Royal, above all other bodies, could give it, and which now more than at any time he had ever known it stood sorely in need of. He was only sorry that, instead of being a definite declaration, his resolution was only a very pious platitude.

Sir MERRIK BURRELL, in moving the adoption of the RESEARCH Committee's report, expressed his own regret, and he felt sure, the regret of every member of the Council, that Sir John McFadyean was retiring from the small Committee which compiled the *Agricultural Research* Annual. There were two reasons for his regret. The first was that Sir John's articles had always been full of information, extremely well written and expressed in a way which appealed to the layman, and were both interesting and educative. The second was that Sir John's retirement from the Committee meant the severance of the last of the links which had bound him to the Society in active service for very many years. Sir John had given them of his best during many years, and he very much regretted to think that although Sir John would, of course, continue to be an Honorary Member of the Society, his active part in its work would cease.

Particulars of live stock which had passed through the Quarantine Station since the last report were given to the Council for their information.

WEDNESDAY, APRIL 30, 1930.

H.R.H. THE DUKE OF GLOUCESTER, K.G. (President), in the Chair.

Arising out of the Minutes, the Secretary read letters he had received from the Earl of Coventry and Mr. E. P. F. Sutton expressing their appreciation of the messages of sympathy sent to them by direction of the Council at their last meeting.

Three new Governors and 77 new members were admitted into the Society.

Mr. BROCKLEHURST, in moving the adoption of the CHEMICAL Committee's Report, pointed out that, while adhering to the original definition of "commercially pure" barley, the Ministry of Agriculture had now issued a memorandum explaining what they meant by it. He thought that satisfactory progress was being made towards getting pure and not adulterated barley for the purchaser, and he had no doubt that the memorandum would have a really good effect.

Another matter in the Report was a resolution asking that the representation of agricultural interests on the Advisory Committee should be increased. He thought there were only about three such representatives, and it was very desirable that Dr. Voelcker, who always made a good fight for the agricultural interest, should have more support. He would like to move that a resolution to that effect be sent to the Ministry.

Mr. W. C. D. Dampier-Whetham, in seconding the resolution, congratulated Dr. Voelcker on the results of his very strenuous efforts in connection with this very important question. The Ministry had not altered the form of words, but had issued a pronouncement explaining what in its view those words meant, and that, although he understood it had no legal force, was evidence which could be brought in a Court of Law in favour of the Ministry's view. He agreed with Mr. Brocklehurst that some advance had been made towards a more satisfactory state of affairs, although they had not got all that they wanted. He understood from Dr. Voelcker that there was already an appreciable improvement in the various samples of barley meal which came before him.

Colonel Stanyforth, moving the adoption of the Veterinary Committee's Report, said that the report regarding foot-and-mouth disease would be very satisfactory to the Council. For over four months there had been no cases.

The Report of the Stock Prizes Committee having been presented, Sir Douglas Newton asked whether any estimate had been prepared of the number of cattle which would be affected by the regulation concerning the exhibition of Certified and Grade A (T.T.) cattle. Also, was it proposed to leave the matter where it was regarding a regulation which, in his view, was not a reasonable one and was detrimental to the best interests of agriculture ? If not, what steps were proposed ? It was an absurd regulation, suddenly enforced by the Ministry of Health. It suggested, although it did not actually say, that the finest cattle in the world, shown in the greatest show in the world, were tainted and affected with tuberculosis, and so badly tainted and affected that no milk-producing animal must be brought near them, or else people could catch tuberculosis. He did not think that any reasonable man would regard that as a tenable theory. Some of the people who came to see the cattle might have tuberculosis. He understood that the regulation was made seven years ago and had not been enforced. The fact that it had been pigeon-holed for seven years supported his contention that it was not a reasonable regulation and that it was not in the best interests of agriculture or of the community that it should be enforced. He hoped the "Royal" would pursue the matter and would not submit in a matter of that kind to be dictated to by officials—it was not necessarily those at the head—whose ideas were entirely focused on one disease and the possible difficulties which might arise from that disease. He thought the Society should press its views with the object of getting either a withdrawal of the regulation or a reversion to the present position of doing nothing.

Mr. Roland Burke replied that the matter had been thoroughly gone into by the Stock Prizes Committee, and that it had been thought best to defer further consideration of the matter until the proposed meeting with the various other societies had been held in the autumn. Very few cattle at the Royal Show would be affected by the Order. It was a matter for the exhibitors themselves as to whether they would show or not. It would be much better to defer the question, because obviously nothing could be done this year with regard to the proposed segregation.

Sir Archibald Weigall, while agreeing with every word that Sir Douglas Newton had said, thought that, however much their action might be disapproved of, the Ministry of Health were on fairly strong ground on the broad principle. The Regulation or Order in Council had been on the Statute Book for six years. Apparently the Royal Agricultural Society of England took so little interest in such fundamental matters that it did not even know of the existence of that Regulation or Order. He would remind those present and his friend Sir Douglas Newton, and the Agricultural Committee of the House of Commons, that it was no use crying over spilt milk. He was in favour of brushing up the milk if it was possible, but he thought it was necessary to go a little further back and realise what the position of the Ministry of Health was. The Ministry followed the ordinary course, and, in the wisdom or unwisdom of Parliament, got this Order on to the Statute Book. The "Royal" took no action. It never even conferred with those concerned or offered any assistance or advice. The Agricultural Committee of the House of Commons apparently allowed the Order to go through. He agreed that the "Royal" should take every step in its power, though there were very few that could be taken. Lord Daresbury, Mr. Roland Burke and Sir Merrik Burrell, a very strong triple alliance, went to the Ministry, and no doubt put the case as forcibly as it could be put; but, to use a colloquial phrase, they were "blown out" by the Ministry of Health. That was the position which faced the Council. Nothing could be done for the present season. The fact that every single foreign visitor to the Royal Show this year would be able to allege that a clean bill of health could not be shown for the milk-producing cattle of the country was to him an absolute tragedy. He thought that the "Royal" and the agricultural Members of the House of Commons, who were to look after agricultural interests, were to a great extent to blame for that state of things. As he had said, nothing could be done this season, but he was all in favour of the R.A.S.E. taking an active part in this as in other matters.

Lord CORNWALLIS, in moving the adoption of the Report of the SELECTION AND GENERAL PURPOSES Committee, said that the importance of the question concerning the Royal Charter raised by Sir Archibald Weigall needed no emphasis. The adoption of the suggestion would alter the whole character and *personnel* of the Society as it had been known through the whole of its history, and therefore was obviously a matter for the fullest deliberation. Not only was the attendance of members at the Committee unusually small, but most of them were not aware that this all-important subject was coming up for discussion. The Committee, therefore, thought it only right to defer the discussion to the next meeting, when it was hoped that Sir Archibald Weigall would be able to attend and tell the Committee the exact nature of the change he desired in the Charter.

Sir ARCHIBALD WEIGALL, although regretting the delay, realised that it was absolutely unavoidable, and was only too delighted to accept the kindly invitation of the Committee in the hope that a further stage might be reached when they met on June 3.

In moving the adoption of the Report of the DAIRY AND PRODUCE Committee, Mr. BURKITT stated that the imports of butter had grown to the extent of 30,000 tons in the last three years, and now reached a total of 390,000 tons. Two-thirds of that quantity came from foreign sources, as against one-third from Imperial and Colonial sources. Unfortunately, no label of origin was required for imported butter, so that when it had arrived it was impossible to say where it really came from. It was well known, however, that a great deal of it was blended and sold, if not exactly as English butter, at any rate under such descriptions as led the ordinary townsman and the ordinary consumer to think that it was genuine English butter. It was known also that 85 per cent. of the foreign butter imported into this country was blended with the sole idea of selling it in that manner. As little as 10 per cent. of Colonial and Imperial butter was blended, and only 40 per cent. of Australian butter. Therefore the great bulk of blended butter was not of Imperial origin.

A careful inspection had been made of the retail shops. Some 1,200 shops were visited and enquiries made in July last. There were less than

100 of those shops in which this foreign butter was sold as such, and it could not be traced whether any foreign butter was sold in them. It was evident, therefore, that it came under a disguise. Unfortunately, when blended, the foreign butter acquired some peculiar virtue in the eye of the innocent consumer, but the fact remained that retailers were able to sell it at 3*d*. per lb. more than the ordinary best Imperial realised. That was a very curious state of affairs. An official committee, on which, if he might say so, the Royal Agricultural Society was unofficially represented by Sir Archibald Weigall, who was on it as representing the Central Chamber, interviewed the Minister of Agriculture, and had been told that what was thought to be an agreed Bill was not an agreed Bill, that the Government would afford no facilities for it, and that it was very unlikely that anything would be done in that direction. The Minister said it was an administrative difficulty, that there was no scientific or chemical method by which blended butter could be identified, and that the possibility of its being detected was very slight indeed. It would be very difficult, therefore, to prosecute those who were misleading the public in this way. In his reply to the deputation the Minister apparently laid the onus of doing anything on the agricultural community at large. The Minister said that it was up to them to make suggestions, and then the Government would give aid if it possibly could; at any rate, he would see what could be done. The DAIRY AND PRODUCE Committee felt that the Society ought to take some part in the deliberations. A very influential committee would be set up, comprising not only representatives of all the Colonies, many breed societies and other agricultural societies, but representatives also of the consumers and the small retail shops—the people who were really being defrauded. With that view the DAIRY Committee had passed a resolution which it hoped the Council would approve—that if such a committee were set up it was only right that the "Royal," as the leading agricultural society, should be represented upon it and do what was possible to help things forward.

Sir DOUGLAS NEWTON could not help feeling somewhat disappointed and distressed at the position which had arisen in the consideration of this very important matter. It had been his privilege to raise the question in the Council two months ago, and, as far as he could see, the matter stood in exactly the same position to-day. It was likely to stand in the same position twelve months hence, and to remain in it *ad infinitum* unless the "Royal" took some action. They all knew that referring it to a Committee was a convenient and frequently adopted method of burying any difficult question. There was no doubt that the question of blended butter was a very important one to English agriculturists. Not only was it an important question, but when it was disposed of they would have to deal with the question of cream and cream substitutes which were colourable imitations of the real article put up, he took it, to mislead certain members of the public. It was said that because there was chocolate cream it was impossible to distinguish between cream and ice cream and to make distinctions in favour of the agriculturist. That was the next subject which would have to be tackled and dealt with effectively; but blended butter was the first matter that should and could be dealt with and he suggested that all possible pressure should be brought to bear on the powers that be to take action. He believed that action could be taken by means of a departmental administrative order. It was not necessarily a matter for legislation. A Bill had been introduced into the House of Commons by a private member. Incidentally, it was supported by Labour, Conservative and Liberal members, and was, therefore, as non-party as it possibly could be. The Bill was a demonstration to draw attention to the necessity of something being done. There was no possibility of the Bill itself doing it. It could not reach the Statute Book, because private members were not given Parliamentary time. It was argued that because that action had been taken they were debarred in some mysterious way from taking any further action. It was also said that if an Order was issued it would be of no earthly use. His answer to that was the mere statement that most of this butter was blended in well-known centres, and some of them had been informed that if an Order was issued 80 per cent. of it could be dealt with and there would be no question of evasion so far as 80 per cent. of blended butter was concerned. He suggested, therefore, that action could be taken which would enable the great bulk of blended butter to be dealt with. After all, it was a very serious scandal that this blended butter should masquerade as English butter, and he ventured to think it was the business of the Council to do all it could to help the home producer to stop the sale of blended butter, which was predominantly a foreign import, under wrappers which suggested to the buyer that the contents were a purely English product. Why were those brand names and brand addresses, emanating, as they did, from and associated with great and famous dairying districts, placed on this butter unless it was to imply that the butter in the packages was pure English butter ? In regard to one blend, even the grocers apparently did not know that it was blended butter, and guaranteed it to their customers as English butter—verbally, it was true. This question affected not only the agriculturist but the housewife, who paid for what she did not get. It was also a still wider question affecting our relationship with Empire producers. He could not quite understand why there should be difficulty in pressing the matter forward. The Imperial Economic Committee stated in a report issued in 1926 : "We recommend, therefore, that all blended butter shall be required to bear prominently on the label the word 'BLENDED.'" They further said: "We may add that in evidence given before us by a representative of the English Butter Factory Association we were told that there would be no practical objection to such a requirement." Therefore he could not see why there was so much hesitation in pressing the matter forward.

As to the Charter of the Society, he had looked at it and considered the alleged difficulty which arose that the "Royal" could not take any part in anything which savoured of politics. The Charter began: "To all to whom these presents come, Greeting." He was not quite sure what the word "presents" meant in that connection, but somebody else, perhaps, would be able to explain that. The Charter was issued in 1840, and was revised or added to in 1905. It was clear, therefore, that it could be amended if so desired. It pointed out that it was the duty of the Council to take measures for the improvement of education and to encourage the best method of farm cultivation. The whole spirit of that Royal Charter was that every possible step should be taken by this body to promote the economic progress and development of agriculture. If that were so, it was surely up to them to take some action in connection with blended butter.

So far as the Council was concerned, there was no collision of ideas and no divergence of views as to the need for taking action. He had heard it said at Council meetings on more than one occasion that the Society wished to increase its membership, and the Council was always pleased when there was a long list of new members. Surely the very best way of enthusing supporters and increasing the membership was not merely to give that great Show, as was always done, one of the best in the world, but to take action with regard to their bread and butter outside. He hoped that, notwithstanding the Charter, the Council would go relentlessly forward and fearlessly advocate the cause of the producer and the interests of the consumer in connection with this most important question of taking action in respect of butter which was mis-labelled and which misled the public, to the detriment of all important interests associated with agriculture in the country.

Mr. ADEANE thought there was nothing in the Charter to prevent the Council debating the question of blended butter until it was blue in the face. Sir Douglas Newton had brought forward many questions which required careful consideration, as Lord Cornwallis had said, and which no doubt would be carefully considered by the SELECTION Committee. He understood that the question which Mr. Burkitt had brought before the Council as a recommendation from the DAIRY Committee was that the Council should ask for representation on the Committee which was to enquire generally into the question of blended butter and to advise the Government. He was sure that the Council entirely agreed with that. There was nothing in the Charter to prevent them doing it, and he suggested that members should be nominated forthwith to attend that Committee.

Sir ARCHIBALD WEIGALL said that, although he agreed entirely with what Mr. Adeane had said, the discussion had covered too wide a ground. He agreed with every word that Sir Douglas Newton had said; but Sir Douglas, in his zeal, was really dealing with a subject to which the Committee of Selection had very kindly said they would apply their minds, and which they felt was a very big question. The only point before the Council was whether or no it would allow that Committee to dig and delve into what might become a very controversial subject. He thought that Sir Douglas had not exactly realised the difficulty, as indeed he himself had not. The older he got the more unhappy he became in his position as a cross-bench member. He had accompanied the producers, both home and colonial, and the consumers—a pretty strong and representative body—to the Ministry of Agriculture, and he was bound to say that he had agreed with a great deal that the Minister had said. The Minister had told them: "You are pushing at an open door. So far as the Government are concerned, they are as anxious as you are to stop what is an absolute scandal." The Minister used the word "scandal." "My analytical chemists are the only people who can give me evidence on which I can convict under the suggestion you make." The analytical chemist advising the Minister told the deputation in the presence of the Minister that it was quite impossible, if samples were put before him, to decide as to whether a blend contained foreign butter, Imperial butter or English butter. But some of the deputation said that there was such a thing as psychological effect, that 80 per cent. would be stopped, and was not that worth doing? The mere issue of an Order, they said, would have such a psychological effect. The Minister replied: "That may be perfectly true of the law in a great many countries in Europe, but happily in Great Britain, when we allow a law to go on to the Statute Book, the first consideration is that it is enforceable. In other countries laws are looked upon as polite requests or recommendations, but in this country we adopt a different principle. I cannot, in my position, allow an Order to be issued that I know cannot be enforced." He ended by saying: "It is up to the agricultural community to show me in what form I can issue an Order by which I can get these people by the throat." He (the speaker) then asked the Minister: "Is it quite reasonable to ask us that? We are simply bucolics. You are a Minister of State surrounded with all the authority that your position gives you, and in the saddle as the Government of the country. Why come to such poor simpletons as we are?" The Minister agreed, but said: "Let us make it fifty-fifty. I will do my bit if you will do yours." Prohibition at the ports could not be discussed, of course, so he (the speaker) then suggested that possibly there were some other means, as this stuff had to come through the ports of entry, of following it from the ports through the whole of its journey Was there no possibility of doing that? That, of course, opened up a discussion as to food imports, which might land one into very controversial cover, and he would like to give this warning. While he was only too delighted that anything should be done, he saw how difficult it was, from the point of view of administration under present conditions in this country, for the Minister of Agriculture to issue any Order that could be carried out to bring these people to book. That was the task that this Council was set, together with every other representative agricultural body. He was with Sir Douglas that every single thing should be done to devise some means by which that could be carried out.

Mr. DAMPIER-WHETHAM said that in spite of the warning which Sir Archibald Weigall had given, it seemed to him that the Council ought to ask to be represented on any committee which was set up to deal with this matter. The fact that the question had been referred to the agricultural community by the responsible Minister absolved them from any fear of interference in any political question. He thought that they ought cordially to do all they could to help in the consideration of a subject which had really been referred to the agricultural community by the Minister of Agriculture.

Mr. BURKITT wanted to reassure Sir Douglas Newton that the resolution had been drafted without the slightest *arrière pensée.* The idea was not to shelve the question, but to take an active part with other people in dealing with it as quickly as possible. He would give Sir Douglas his personal assurance, as Chairman, that the Committee would put their backs into the job and try to get something done.

Mr. ADEANE was not quite clear who was going to represent the Society. He proposed Mr. Burkitt, as Chairman of the DAIRY Committee, as one representative. Was it necessary that there should be others ?

Mr. BURKITT replied that, unfortunately, he was not able to get to London as regularly as he would wish, and thought it would be wise that others should be associated with him. He would like to suggest Sir Douglas Newton and Dr. Stenhouse Williams, a member of the DAIRY Committee and a great dairy expert, as the other two.

Mr. ADEANE proposed that the suggestion be adopted.

The proposition was seconded by Colonel STANYFORTH and agreed to.

Mr. DAMPIER-WHETHAM moved the adoption of the RESEARCH Committee's Report. With regard to the development of electric power in rural areas, he pointed out that a very useful leaflet had recently been issued by the Commissioners, and the Committee had asked for an adequate number of copies, which would be circulated to members of the Council. He thought, therefore, that the point could be more conveniently postponed until the next meeting, when the members of the Council would have had an opportunity of reading the Memorandum.

On the subject of lucerne inoculation, as the Council knew, experiments had been carried out for several years at Rothamsted under the direction of Sir John Russell, and had been brought to a very successful issue, chiefly by the genius and skill of Mr. H. G. Thornton. Farmers were now able to grow lucerne successfully in areas where before it would not stand. A short while ago it was felt that the time had come for the method to be used on a larger commercial scale than was possible at Rothamsted. Messrs. Allen and Hanburys took over the work, and the figures in the Report showed that the process for which the Royal Agricultural Society was largely responsible had been, and was being, a great success. Not only were lucerne cultures now being used in various areas in the North and West of England, where lucerne could not easily be grown, but also, as the Council had heard, the cultures had actually spread to Australia. He held in his hand a newspaper cutting which explained that several hundred farmers in Australia had used the cultures and found that they were now able to grow lucerne where they could not grow it before. He thought that the RESEARCH Committee and the Council might congratulate themselves on a very useful piece of work.

The SECRETARY read a letter from the German Agricultural Society inviting Members of Council to visit their thirty-sixth annual show at Cologne from May 27 to June 1.

WEDNESDAY, JUNE 4, 1930.

H.R.H. The Duke of Gloucester, K.G. (President), in the Chair.

Four new Governors and 115 new members were admitted into the Society.

Mr. Adeane moved the adoption of the Finance Committee's report with the exception of paragraph 3, concerning the lease of No. 16 Bedford Square.

The report with this exception was adopted.

Mr. Adeane then dealt with the question of the renewal of the lease of the Society's house. Upon the removal of the Society from Hanover Square in the year 1906, the Duke of Bedford granted a lease for a term of thirty years from Midsummer Day, 1906, at a rent of £150 per annum with a premium of £3,000. At that time it was considered that the Duke had treated the Society very generously. When the lease was secured various alterations were made to the house, including the erection of the Council Chamber, in which the Society held their usual monthly meetings.

In view of the changing conditions and values of property in the vicinity of Bedford Square and the necessity of obtaining for the Society some security of tenure of their premises for future years, the Finance Committee considered it desirable that the Duke of Bedford should at once be approached and asked if he would extend the term of the present lease, and, if so, upon what terms. The Duke had informed him that it was not the practice on his estate to grant reversionary leases, but if the Society cared to surrender the term in the existing lease he would grant a new lease for twenty-one and a quarter years from Lady Day, 1930, at an annual rent of £415.

Mr. Burke and himself had interviewed the Agent to the Duke of Bedford to request that, if possible, a longer term should be granted; but they were informed that the portion or block of Bedford Square in which No. 16 was situate had been scheduled in accordance with an estate plan, and it was not possible to arrange for a longer period than twenty-one and a quarter years. The question of rent was also discussed, and they were informed that a rent of £500 per annum could easily be obtained for the premises, in the event of the Society vacating the same. Under those circumstances, it would, he thought, be recognised that the terms of £415 per annum for a lease of twenty-one and a quarter years were quite reasonable, and, in fact, generous.

In considering the question of a new lease, the Finance Committee had had in mind certain improvements that might be carried out to the Society's house, and they now suggested that the present conservatory or glasshouse on the first floor should be enlarged and converted into a comfortable waiting-room, and that a small room should be built in the basement with an entrance from the corridor leading to the Council Chamber. Plans had been prepared by Mr. C. T. Doll, who acted as Architect to the Bedford Estate, and his estimate for the suggested alterations was £1,000.

The difference between the rent now paid under the existing lease of £150 and the rent asked of £415 might seem somewhat large, but it was accounted for by the fact that the Duke of Bedford did not now ask for any premium, and allowance had been made for that in arriving at the terms.

The cost of the alterations, which, of course, increased the capital value of the premises, would be taken into consideration by the ground landlord, who would make an allowance of 3½ per cent. upon the capital outlay, thus reducing the lease rent to £380, if £1,000 was expended.

It really meant that the Finance Committee were asking the Council to sanction the expenditure of £1,000 on improving the premises, and the taking up of a new lease for a period of twenty-one and a quarter years from Lady Day last at a rent of £415, less 3½ per cent. on the expenditure to be incurred on alterations.

Having regard to all the circumstances of the case, the Finance Committee had no hesitation in asking the Council to enter into a new lease upon the terms stated.

Paragraph 3 of the Report was then adopted.

On the motion of Mr. ADEANE, it was resolved:

> "That the Secretary be empowered to issue to any duly nominated candidate for membership of the Society, on receipt of the annual subscription, a badge admitting the candidate to the same privileges as a member during the forthcoming Show at Manchester, the formal election of such candidate to be considered by the Council at their next ordinary meeting."

Mr. BROCKLEHURST, in presenting the Report of the CHEMICAL Committee, wished to say a word about the request for a larger agricultural representation on the Advisory Committee. He need not say that the two interests most vitally concerned under the Fertilisers and Feeding Stuffs Act were the farming industry and traders. Under the constitution of the Committee the traders had five representatives and agriculture four. The Chemical Committee thought it only fair that there should be equal representation. They did not say that in any spirit of opposition, but merely from the point of view of what was fair. He proposed that a letter in terms suggested in the Report should be written to the Ministry.

The Report was adopted, and it was agreed that a letter should be written accordingly.

Lord HASTINGS, in presenting the Report of the BOTANICAL AND ZOOLOGICAL (FORESTRY and ORCHARDS) Committee, expressed regret that the entries this year in the Plantations Competition were not quite up to standard. He had been into the district of Devon, Cornwall and Somerset following on an invitation to see why the entries were not quite up to the usual number. Everybody living in the South-West of England knew that in that part there had been appalling gales in the winter, with the result that the condition of some of the plantations in the counties concerned were of such a nature that landowners were unable to enter what they would otherwise have entered. The damage was of the most serious kind. All things considered, he thought that it was lucky to have such entries as there were.

Mr. WILLIAM BURKITT, in moving the adoption of the DAIRY AND PRODUCE Committee's Report, said he only wished to add that the Committee had asked that Sir Archibald Weigall and Sir Douglas Newton should represent the interests of the Society on the sub-committee appointed at the Royal Empire Society's Conference to deal with the matter of blended butter.

The Report of the RESEARCH Committee having been presented, Lord HASTINGS said that last year a few members of the Research and Implement Committees found themselves able to visit Sprowston, which was quite close to Norwich, to inspect the work that was being done at the experimental farm there. He greatly hoped that this year a larger number of members of the two Committees would be able to attend and also that other members of the Council would do so. The Agricultural Station in Norfolk had for a number of years been doing a considerable amount of work, which he hoped was important, for the Society. He felt confident that members of the Council at large would be interested to see what was going on. It would give the very greatest pleasure to the Committee of which he was Chairman to do all that they could for the comfort of visitors, and to give them the opportunity of seeing everything that was to be seen. He would mention that amongst other arable crops, if he might put it so, which were to be seen this year was the much-discussed *Brotex*. He felt sure that they could offer to members an interesting two or three hours, which they would not regret having spent in Norfolk.

The Trustees of the Queen Victoria Gifts Fund reported that the interest on the Fund's investments, allowing for the rebate of income tax, amounts to £174 15*s*. per annum. The balance at the bank in the Fund's interest account now totals £196 8*s*. 3*d*.

For the ensuing year the Trustees recommend making a grant of £180, to be devoted to gifts to candidates as below, the distribution in each class to be left until after the election to pensions by the Royal Agricultural Benevolent Institution :—

Male Candidates.—Six gifts of £10 each.

Married Couples.—Three gifts of £20 each.

Female Candidates.—Six gifts of £10 each.

Including the grant now recommended, a sum of £3,680 has been paid over to the Royal Agricultural Benevolent Institution since 1906.

On a motion from the Chair, the seal of the Society was ordered to be affixed to a Deed of Indemnity in respect of tractor trials between Dr. B. J. Owen and the Royal Agricultural Society of England.

WEDNESDAY, JULY 9, 1930.

H.R.H. The Duke of Gloucester, K.G. (President), in the Chair.

On the motion of Lord Daresbury, seconded by Sir Archibald Weigall, it was resolved :

That the best thanks of the Society are due and are hereby tendered to :

(1) The Officials of the General Post Office for the efficient postal arrangements in connection with the Show.

(2) The Chief Commissioner of Police for the efficient services rendered by the detachment of Metropolitan Police on duty in the Showyard.

(3) The Chief Constable of Manchester for the efficient Police arrangements in contion with the Show.

(4) The St. John Ambulance Brigade No. 4 District (Manchester and Salford Corps) for the efficient Ambulance Arrangements at the Show.

(5) Messrs. Barclays Bank Limited, Local Bankers, for the efficient services rendered by their officials.

(6) Messrs. Merryweather & Sons, Ltd., for the provision of Fire protection appliances, and for the efficient arrangements made by them in connection with the Fire Station in the Showyard.

(7) Messrs. Kendal Milne & Co., Deansgate, Manchester, for decorating and furnishing the Royal Pavilion.

(8) The Manchester Corporation Parks Committee, for providing Floral Decorations at the Royal Pavilion, and Seats round the Band Stand.

(9) The Young Men's Christian Association, Manchester, for providing reading matter, writing materials and refreshments, and for organising Welfare Work for Stockmen and Grooms in the Showyard.

Letters of thanks were also ordered to be sent to various other individuals and firms for assistance kindly rendered, and for the loan of articles for the purposes of the Show.

On the recommendation of Mr. Adeane, authority was given for the Seal of the Society to be affixed to a Proposal to the Duke of Bedford for a new lease of the Society's House, No. 16 Bedford Square.

The following report was received from Professor Hobday :

Anthrax.—During the last four weeks for which the official returns have been published (May 16th to June 15th inclusive), 22 outbreaks, with 23 animals attacked, have been confirmed. Twelve of the outbreaks were in England, 9 in Scotland and 1 in Wales. During the same period of last year 42 outbreaks, with 54 animals attacked, were confirmed. The total outbreaks since the beginning of the year now number 210, or 23 fewer than at the same date last year.

Swine Fever.—During the four weeks 233 outbreaks were confirmed as against 302 during the corresponding period of 1929. With the exception of 4 in Scotland and 3 in Wales all the outbreaks were in England. The total outbreaks since the beginning of the year now number 1,274, as against 877 at the same date last year.

Sheep Scab.—During the last four weeks 12 outbreaks were confirmed against 23 during the same period of last year. Seven of the outbreaks were in England, 4 in Wales and 1 in Scotland. They occurred in the following counties:—2 each in Nottingham, Essex and Anglesey; 1 each in Lincoln (Parts of Lindsey), Lincoln (Parts of Holland), York (East Riding), Merioneth, Montgomery, and Lanark. The total outbreaks since the beginning of the year now number 255 as against 324 at the same date last year.

Parasitic Mange.—During the four weeks 14 outbreaks, with 15 animals attacked, have been reported. All the outbreaks were in England. The corresponding figures for last year were 9 outbreaks with 24 animals attacked. The total outbreaks since the beginning of the year now number 139 as against 135 at the same date last year.

Foot and Mouth.—No outbreaks have been reported during the period under review.

Proceedings at the General Meeting of Governors and Members,

HELD IN THE LARGE TENT IN THE SHOWYARD AT MANCHESTER,

WEDNESDAY, JULY 9, 1930.

H.R.H. THE DUKE OF GLOUCESTER, K.G. (PRESIDENT), IN THE CHAIR.

The PRESIDENT, in opening the meeting, said:—My Lords, Ladies and Gentlemen,

I do not intend to detain you long to-day by making a lengthy speech, but the Society has certain duties to perform at this meeting, more particularly that of expressing our thanks to the Corporation of Manchester for their invitation to the Society to hold the show in their city, and to the Local Committee for the arrangements they have made for the reception of the show.

You will all agree, I am certain, that we have in the showyard a most excellent exhibition of all the best live stock in the country, and that the holding of the Royal Show worthily fulfils one of the objects for which the Society was founded.

This show is the fourth Royal Show held in the city of Manchester. Its three predecessors were remarkably successful, and all resulted in a financial gain to the Society. Even the 1916 show, held in one of the war years, ranks as one of the most successful in the history of the Society. I hope with you that a similar report may be presented at the end of the year as the result of the present show. (Hear, hear.)

I well remember visiting the Royal Show at Leicester, in 1924. That show was held during the time of exceptional difficulty, when foot-and-mouth disease had been rife in several counties in the country, and I am sure exhibitors and breeders of stock must all be very thankful that during the present year we have not had a recurrence of that disease, and have indeed been clear of it for more than six months. (Applause.)

I will not trouble you with figures regarding the entries. They are slightly fewer than last year, except in the sheep and produce sections, but I do not think that anyone can quarrel with the quality of the exhibits on view.

I must not omit the thanks of the Society to the implement exhibitors. In the trying times through which the agricultural industry is now passing it requires a great deal of courage on their part to continue to exhibit as they do at most agricultural shows. They are evidently believers in advertising, and I trust that the fine exhibits of agricultural machinery and implements they have staged at the Manchester Show will induce customers, not only from this country but from overseas, to make purchases of what are undoubtedly the finest implements of their kind manufactured in any country.

As you will have seen from the schedule, the Society has offered a sum of £15,700 in prize-money, of which £1,500 is contributed by the Manchester Local Committee, and nearly £3,500 from breed societies, who do this as propaganda, and for the benefit of the particular breed they represent.

The Royal Lancashire Agricultural Society, who claim this county as their particular territory, have generously agreed to withhold their show for the year and to assist in every possible way the interests of the premier Society upon its visit to Manchester. (Applause.)

The relation existing between the County Society during the negotiations for the visit of the show have been most friendly, and I may safely say that the visit of the Royal Show to Manchester has been the means of cementing still further, if that were necessary, the bonds of friendship which the two Societies have in common as show-promoting societies and in furthering the interests of the stock-breeders of this country.

As regards the site of the showyard, preparations have been proceeding for some years, and the officials of the Corporation have devoted a tremendous amount of time and attention to this work—(hear, hear); the levelling of the site, the seeding down and raising of the turf, the laying on of the gas and water, have all received the personal attention of the officials concerned, and they have not begrudged their time. I hope they will be rewarded for their efforts by the success of the show they now see.

A special measure of thanks is also due to the Local Honorary Secretaries, and to all those officials of the Local Committee who have voluntarily undertaken the task of supervising the preparation of the site of the show. (Applause.)

I cannot proceed to the formal business of the meeting without expressing the great regret we all feel at the retirement of Lord Daresbury from the Hon. Directorship of the Royal Show. This will be his twenty-fifth year of Honorary Directorship, during which time he has seen the show go from success to success. His interests have been wrapped up in it, and we cannot leave this meeting without expressing to him our most grateful thanks for all he has done for the show, and our sadness at the thought that we shall no longer see him organising and managing the affairs connected with it as he has done so well in the past. (Applause.)

I would, however, ask you to give to Mr. Roland Burke, the new Honorary Director, the assistance and support you have rendered to Lord Daresbury in the past, and which, I know, he realises it will be necessary to enlist, if he is to follow in the footsteps of Lord Daresbury and keep this great show up to the standard you all expect.

Thanks to Lord Mayor and Corporation.

The DUKE OF DEVONSHIRE said that H.R.H. the President had already made reference to the very kind welcome which the Lord Mayor, Corporation and citizens of Manchester had extended to the Society, and to the admirable arrangements which had been made, but he would like to move formally a resolution expressing the sincere thanks not only of the Council but of every member of the Society to the Lord Mayor and his colleagues for all they had done for the Society. (Cheers.) They were especially grateful to the present Lord Mayor's two predecessors, who first arranged for the visit of the show—Alderman Davy and Col. Wescott —and to the Lord Mayor (Mr. R. Noton Barclay). They had all thrown themselves very heartily into the task of making the show a great success.

All concerned had done so well, but he would like to express their gratitude to the Town Clerk, to the City Engineer, to the City Surveyor, and also to the Chief Constable, Mr. Maxwell, for what they had done in their respective spheres to make the show the success it undoubtedly was.

Agriculture, as they knew, as well as the great industrial centres, was passing through times of anxiety and difficulty, but he could not help hoping that they were approaching the end of their troubles and that the future might be brighter and happier for them all. He trusted that the recollections regarding the show of the Lord Mayor and his colleagues would be as interesting as those of members of the Society.

That was not the first occasion on which the Royal Agricultural Society had been welcomed to the city, and he trusted as time went on that his lordship's successors would be able to welcome the Society again on some no very distant date. He knew that when the show came again the Society would be certain of a very hearty welcome and that no effort would be spared to make the show a great success.

He begged to move: "That the best thanks of the Society are due and are hereby tendered to the Lord Mayor and Corporation of Manchester for their cordial reception of the Society."

He could assure them that these were no mere formal or perfunctory words, but represented the Society's gratitude to Manchester. Although he was not now so closely identified with Lancashire as he was forty years ago, he knew that they had done their best in the weather, too; but, if he might be respectfully allowed to say so, this was not always so in Manchester. Whenever the "Royal" paid the city a visit, however, Manchester invariably produced its best weather. Although it had been a little threatening on the previous day, he was glad to see that the clouds had rolled away. Might the weather during the remainder of the show give the Society as warm a welcome as the Lord Mayor, Corporation and citizens of Manchester had done. (Applause.)

Mr. ROLAND BURKE, in formally seconding the resolution, endorsed all that had been said by the Duke of Devonshire.

The vote of thanks was passed with acclamation.

The LORD MAYOR OF MANCHESTER, on behalf of the city which he had the honour to represent, said he deeply appreciated that vote of thanks, and not only the vote of thanks, but the all too kind way in which his Grace had proposed it. They in Manchester deemed it a great honour that once again the Society had been good enough to look with favour upon them. As had been said, the show had been held there on three previous occasions, and each time it had been a great success. He trusted that the present show would be equally successful. He appreciated most warmly the very kind reference which had been made to the Corporation officials, who had thrown themselves most heartily into the enterprise and spared no time or pains in order to make it as great a success as possible. Reference had been made to the weather and to the condition of trade and agriculture at the present time. The Duke of Devonshire alluded to the way in which the weather at first seemed threatening, but had come up to the scratch and the clouds had rolled away. Might he be permitted to express the hope that the clouds now over both agriculture and industry would speedily roll away. He trusted that the Royal Agricultural Society might realise all its best hopes in the show at Manchester this year.

Local Committee Thanked.

Lord DARESBURY, who was warmly cheered on rising, said he had a very pleasant duty to perform. It was to move: "That the best thanks of the Society are due, and are hereby tendered, to the Manchester Local Committee for their exertions to promote the success of the show." Anybody, he said, who knew anything about what had gone on in the last two or three years would be aware of what had been done. When the showground had been taken in hand by the Local Committee, its 90 acres were all arable, but by skilled preparation it had been turned into a site as good as it had been possible to get. The work had needed a good deal of time and attention on the part of the Local Committee, who had readily put their backs into it, and they had been well supported by their officials, with the result that the roads round the ground and the garage arrangements were the best they had had in connection with any show. It was, he felt, rather like proposing a vote of thanks to himself, as he happened to be a member of the Local Committee, but he desired specially to mention the hard work of the Town Clerk and Mr. J. Herbert Hall, who, as Joint Local Secretaries, had spared no effort. The showground was one of the best they had ever had. There was not a hole or a hill in it, and the task of laying out the yard was like setting it out on a table. The ground was most compact, and visitors found it easy to get about. He tendered his personal thanks to all the members of the Local Committee. He was sure that all they had done was highly appreciated by every member of the Society. He had the greatest pleasure in moving the resolution.

Mr. EDWARD BOHANE said that, as a Lancashire man now for some years resident in Ireland, and yet at the same time representing Ireland as a whole with no barrier on the Council of the Royal Agricultural Society, it gave him particular pleasure to second this resolution. Manchester, although a great city of commerce, had always recognised agriculture. In the now far distant days of the year 1769, in St. Ann's Square, Manchester, the first gathering of live stock was brought together, which was the forerunner of the Agricultural Show as seen to-day. Since that time Manchester had always given a warm welcome to it, and he felt sure that at the end of the week, when the curtain was rolled down on the Royal Show, they would all feel proud that even under the existing depressed conditions Manchester had been able to maintain its reputation.

The resolution of thanks was put to the meeting and carried unanimously.

Mr. J. HERBERT HALL, in responding, said he was sorry that the Town Clerk was not able to be present to reply to the vote of thanks, but in his absence he thanked the meeting for their resolution so kindly proposed by Lord Daresbury and seconded by his old friend Mr. Bohane. The work of the Local Committee, he could assure the Society, had been a pleasure, for he was sure that every member of the Committee had done his best and had enjoyed the task. He could not help referring to Lord Daresbury and the source of inspiration he had been to them all. Whenever his Lordship walked into the Town Hall, although he did not say anything, he seemed to have a magnetic influence on every one of them, and they were always ready to do everything he wanted.

Railways Thanked.

Lord TREOWEN moved a vote of thanks to the railway companies for the facilities afforded by them in connection with the show. Anybody, he said, who had had experience of the conveyance of valuable stock by rail would know how well that service was performed by the companies. He, for one, was not yet converted to road transport for valuable stock. All were possessed of the critical faculty, but when they criticised let them remember that the railway companies were suffering from competition which drew away many of their old customers.

Mr. WILLIAM BURKITT said that, as one who had been safely and fairly promptly conveyed to Manchester by the railway, he seconded the resolution. He did so also in the lively expectation of favours to come in the return journey at the end of the week. As Steward of Produce, he wished to refer to the courterous and obliging way in which the officials, great and small, had handled the exhibits of produce in the section with which he had been connected.

The resolution was unanimously carried.

Remarks and Suggestions.

In response to the usual invitation from the chair as to whether any Governor or Member had any remark to make or suggestion to offer for the consideration of the Council,

Mr. Walton Maughan (Holmfirth, Yorks.) said he would like to suggest that a small Committee be appointed to back up the Council and their excellent officials to help what was once the Cinderella of agriculture—Poultry, but which had now grown until it exceeded in importance the whole of the wheat crop of the British Isles. He proposed the appointment of a Committee because he thought the Society might get another thousand exhibitors in the Poultry section by cutting the entry fees down by half.

Another Member said he had been asked to bring forward a suggestion that the railway companies should be asked to extend reduced fare facilities to a second man accompanying exhibits of live stock in one vehicle. As his son, who came in the vehicle with the shepherd, travelled on the Saturday instead of Monday he had had to pay full fare. He raised the question so that those exhibitors who sent their sons with their stock should not be put to greater expense than those who travelled on after the exhibits.

The President said a note had been taken of the suggestions, which would receive the attentive consideration of the Council.

Thanks to President.

Mr. R. S. Walters (Birmingham) said it was his great pleasure to propose a resolution which he knew would be received with acclamation. It was a vote of thanks to H.R.H. the Duke of Gloucester for so kindly taking the chair that day. (Applause.)

In the interests of agriculture he expressed the hope that at no distant date stock bred by His Royal Highness might be seen in the showyard competing with that of H.M. the King and H.R.H. the Prince of Wales—and he trusted with equal success. There were on the platform that day many leading agriculturists who would be able to advise His Royal Highness how to conduct his agricultural efforts with the minimum of loss. He had great pleasure in proposing the vote of thanks to His Royal Highness, not only for attending the Show, but also for conducting the business that day so admirably.

Mr. J. Douglas Brown seconded the motion. As a business man of the city and a member of the Society he wished to say what special pleasure it had given to everyone in that part of the country that a member of the Royal Family had been able to come to the show. In the present state of trade His Royal Highness's visit to Manchester had been an immense help and stimulus.

The motion having been carried by acclamation,

H.R.H. the Duke of Gloucester thanked the meeting for the very kind way in which they had received the resolution, and said it had given him very great pleasure to visit the Show and to have presided over the meeting that morning.

WEDNESDAY, JULY 30, 1930.

Lord Daresbury, C.V.O. (Trustee), in the Chair.

In the absence of H.R.H. the Duke of Gloucester (President), Lord Daresbury was called to the chair, on the motion of Mr. Adeane, seconded by Lieut.-Colonel Stanyforth.

Five new Governors and 123 new members were admitted into the Society, and three were re-elected.

In moving the adoption of the Report of the Finance Committee, Mr. Adeane said he was not able to give any figures with regard to the Manchester Show. He feared there had been a loss; at the same time he was glad to say that so far as could be ascertained the loss would not be a very severe one.

Sir Douglas Newton asked whether there would be an opportunity at some later date of debating the general question of the Show and any loss which might be incurred in conducting it.

The Chairman replied that there would be an opportunity when the accounts were presented.

Sir Douglas Newton asked whether that would be in time to institute any changes with regard to next year's Show programme.

The Chairman said that it would be in regard to any detail, but not the general scheme. The general scheme of the Warwick Show had been more or less settled for some time. Any detail of management or the schedule or anything of that kind could be raised.

Sir Douglas Newton explained that he had only raised the point because it would be a pity that any suggestions which members had to offer were cut out in any way.

The Chairman said they would not be cut out.

Mr. Adeane moved:—

> "That in order to facilitate the winding up of the accounts of the Manchester Show as early as possible, authority be given for the issue during the recess of orders on the Society's Bankers for the payment of accounts connected with the Show."

The motion was seconded by Mr. Burke, and carried.

Lord Hastings, in moving the adoption of the report of the Botanical and Zoological (Forestry and Orchards) Committee, said he would draw the attention of members of the Council from Shropshire, Staffordshire, Cheshire and Lancashire to the notice of the Plantations Competition for next year. Possibly in meeting landowners in those four counties the members in question might draw their attention to it. Schedules would be sent out. The northern end of Lancashire, which was shown on the map as Furness, and, he believed, was the Over Sands Division, would be cut out of Lancashire proper and added to the area which included Westmorland. It would be so extremely difficult to arrange for the judging of that part of Lancashire as well as for the other part and counties so far south as Shropshire and Stafford.

He also wished to refer to the engagement of exponents of rural industries at the show. There were three at the last show, the first occasion when it was done. Admittedly it involved the Society in some expense, but it seemed to draw large crowds. Incidentally, he had received personal letters from all the tradesmen concerned, not only thanking the Society for allowing them to appear at the show, but expressing the certainty that the great advertisement which their appearance at the show gave them would be of tremendous assistance to them in their trade for the rest of the year, and perhaps for longer than that. He was sure that the Council desired to encourage rural industries as far as possible, and in the face of the first-hand evidence from the exponents of those industries that the advertisement the Society had been able to give them was of advantage he thought the Council would consider that it was a line which ought to be continued if possible, even though it cost a little money. Incidentally, there had been a saving of between £30 and £40 on the judging expenses in the Plantations Competition this year, which would go a long way towards paying for the demonstrations. He hoped that would be possible in future years. He hoped also, with the consent of the Council, to arrange for further demonstrations at the Warwick Show, as it was a departure which had given a certain degree of satisfaction at Manchester.

In presenting the Report of the VETERINARY Committee, Colonel STANYFORTH explained that Sir Merrik Burrell, who was unable to be present, had asked him to say a word about the very important letter which the Committee suggested the Council should send to the Minister of Agriculture with reference to the Royal Veterinary College. The present position of the College was a very long story, and no doubt a good many members knew the principal facts; but for the sake of others and in introducing the letter which the Committee asked the Council to send, he would briefly explain matters. The position of the Royal Veterinary College, whose enormous value to agriculturists the premier Agricultural Society of England must feel more even than any other agricultural society, had become very precarious in the last few years principally owing to the fact that the buildings were practically falling down, and in some cases had already fallen down. The Governors had been aware of this for some time, and had done their very best with limited funds to stop the rot. But the state of the buildings really was such that it was impossible to patch them up any more, and it was a question of rebuilding. Apart from that, the Governors had not sufficient funds to carry out the duties of the College satisfactorily inasmuch as they had not been able to give the salaries they ought to be giving. Although many of the professors had been most kind and loyal and had stayed on at salaries which they could hardly be expected to accept, and the work of the College had been carried on, a crisis had been reached; in fact, the crisis was reached a year or two ago when the Governors first approached the Government in the matter. The Government offered a pound for pound basis; in other words, they would double what the College could collect and would give the money out of the Development Fund. Members would well understand that it was extremely difficult in these days to get any large sum of money. The sum considered necessary for building purposes, apart from maintenance, was £250,000. At first it was £300,000, but it had been cut down to about £250,000.

He would remind the Council that in practically all other countries veterinary colleges were entirely State built, State aided, and State maintained. That had never been the custom in this country, and the view expressed in a letter received from the Ministry of Agriculture the other day was that they could not accept the view that the entire responsibility for veterinary education in general, and for the Royal Veterinary College in particular, should ultimately fall upon the State. If such a view was once adopted it would not be confined to a particular form of University education or to a particular institution, and it was fundamentally inconsistent with the principle of the autonomy of universities and other institutions of higher education. The reason for the use of the word "Universities" was that the Government insisted, perhaps rightly, that the College should be allied with the University of London.

A sum of £30,000 had been collected. The Government were willing to make that up to £130,000, but they said that the College must somehow collect another £70,000 in order to reach the full figure. The Governors regarded it as practically impossible in these bad times to get another £70,000 by voluntary subscription, but the Government had practically put a pistol to their heads, and had said, "Unless you do this we shall not do anything." Therefore the Governors thought they must do what they could, and perhaps with a stronger story to tell people and a more critical situation they might be able to go some way towards getting the £70,000.

The Veterinary Committee felt that it would be a very great help if the Council sent the letter which was drafted at the Veterinary Committee yesterday to the Minister of Agriculture. The Committee thought it was a very strong letter, and that if it was sent it would aid the College in the present grave crisis. He trusted the Council would allow the letter to go forward, and would help the Royal Veterinary College in every possible way to find the necessary money.

Lord Mildmay of Flete wished to accentuate Colonel Stanyforth's view that the veterinary profession was faced with a very serious crisis. That would be recognised by all who had the interests of agriculture at heart. He did not think that any member who had not seen the College lately could possibly realise the appalling condition of the buildings. It was no wonder that the departmental Committee, set up some time ago to look into the matter, declared that the conditions were scandalous. The buildings had been condemned by the local authorities. The Departmental Committee stated that the condition of things was almost impossible for the staff, and that it looked as though the buildings would tumble down and bury them before long.

They would all be very grateful to Lord Harewood for bringing the matter before the House of Lords so effectively. The Government, as they had heard, had now made a new offer, and left it to private benefactors to find something like £70,000. The Government representatives in the House of Lords appeared to be under the impression that those connected with the College had not tried sufficiently hard to obtain the money. That was not so. For years past the Principal and all connected with the College had strained and striven to get subscriptions from the public, not by one method only, but by every conceivable method. He could recall the time when Lord Northbrook directed the activities of the College and the many conversations he had had with Lord Northbrook and Mr. Ernest Mathews as to how to squeeze more money from private benefactors. Those intense efforts, as Colonel Stanyforth had said, produced £30,000, and now the Governors were expected to find another £70,000. Everyone knew that agriculturists in these days could not be got to subscribe to that extent, although something might be hoped for from well-endowed individuals. The Governors were asked during the debate in the House of Lords not to close down the College; but he maintained that they had no right to assume the responsibility of keeping it open and of asking young men to undergo the course there unless that course be given under efficient conditions and unless the upkeep and maintenance of the College in the future was provided for with certainty. The representative of the Ministry of Agriculture in the House of Lords suggested that representatives of the Governing Body of the College should visit the Ministry in the near future and consult with them regarding the provision of a sufficiency of funds. The representatives were very willing to do that, of course, and he only hoped that in private those at the Ministry might be more amenable than they allowed themselves to be on the floor of the House of Lords.

In the meantime he agreed with Colonel Stanyforth that the Council and the Society could be of the very greatest assistance by representing to the Department that on no account should the activities of the Royal Veterinary College be allowed to lapse, and that it would be calamitous to close the College down. Not only were the Ministry of Agriculture concerned, but the Ministry of Health also, because the matter affected the health of the community. People had come to recognise the interdependence of research work upon human and animal diseases. Everybody realised that now. But veterinary research lagged behind, not because it was impossible to get good research workers, but because of the lack of methodical encouragement. How could there be efficient veterinary research work without research workers, and how could there be efficient research workers unless those workers were educated at some such institution as the Royal Veterinary College?

Again, the matter affected the Secretary of State for the Dominions. The Dominions were always clamouring for more and more veterinary help, and it became increasingly difficult to supply it. The fact of the matter was that the existence of the Royal Veterinary College was a national question. Without labouring the matter further, he hoped that the Council would be ready to make strong representations in the sense suggested in the letter.

Lord HASTINGS suggested that if it had not already been done the Governors of the Royal Veterinary College might consider it well to send a complete story to the Animal Diseases Committees of the various County Councils with an appeal for help from them. The Animal Diseases Committees were entirely dependent upon effective veterinary services, and it was possible—he would not go so far as to say that it was probable—if the whole story was put before them and the urgency of the need represented to them. that assistance might be forthcoming officially from the counties out of the rates. It was at least worth while trying that if it had not already been done.

Colonel STANYFORTH said that the Governors of the College were very much obliged to Lord Hastings for his suggestion. Except in a general way, when there was a general appeal to the public and the whole circumstances were put before them, the Governors had not approached the Animal Diseases Committees.

Sir DOUGLAS NEWTON asked whether there was any difficulty regarding the site and what was the value of the site ?

The CHAIRMAN pointed out that it would be the present site.

Colonel STANYFORTH said that the site belonged to the Ecclesiastical Commissioners. The College held the site on lease. It was just a question whether it would be better, provided the Ecclesiastical Commissioners agreed, to purchase the site or to continue as lessees. The Commissioners were very amenable and wishful to help in any way they could. There had been no difficulty of the kind suggested.

Colonel STANYFORTH, in presenting the IMPLEMENT Committee's report, again drew the attention of the Council to the Tractor Trials which would be held in September. All the tests had been made and had been most satisfactory. This was one of the most interesting trials that the Society had ever undertaken. Taking into consideration all the help, trouble and work of the Institute of Engineering at Oxford in connection with the tests, he would say it was a very great and almost wonderful trial. The Council would be glad to hear that the British manufacturer, who had had to face a very great deal of foreign competition, had come out extremely well in the tests. As a matter of fact, the British manufacturer had had to meet the best in the world. There were eleven English, one Irish, and two Canadian ; there were ten from America, five from France, four from Germany, two from Sweden, and one from Hungary. The tests had been very exhaustive and had been invaluable to the British manufacturer. Dr. Owen stated : "These trials are very well advanced and the tests are practically complete. All the arrangements for the demonstrations have been made, and no hitch can occur in this organisation. I have gone into every question very carefully with the executive heads of the test, and I am quite satisfied that all that can be done has been done." He (the speaker) hoped that members would not only attend the trials themselves, but would induce farmers in their own neighbourhood to attend them. Public demonstrations by the machines which had taken part in the trials would be given from September 16 to 19 on the estate of Mr. A. T. Loyd, at Ardington, Wantage. He was sure they were very grateful to Mr. Loyd for what he had done in the matter. The demonstration should be seen by every farmer, as it would show the astonishing strides that British tractors had made in a very short time.

Sir DOUGLAS NEWTON was glad to learn that so far the trials had shown that the English manufacturer was capable of making and was making the finest machinery in the world. That was a view that had long been held, and he was glad that it was being publicly proved. With regard to the trials themselves, he would suggest that a special notice be sent out to all members of the Society in the counties adjoining the venue of the trials.

The CHAIRMAN thought that had already been done.

Sir DOUGLAS NEWTON explained that he meant special notices nearer to the date of the trials, if that was practicable. Then he did not know whether films had been taken of the trials which could be exhibited at the Agricultural Show at a later date as indicating the activities and ramifications of the Society. He would like to suggest that for what it might be worth.

He would draw attention to another point mentioned in the report. He thought it was stated that the award of a silver medal in respect to one important new agricultural machine had been deferred for twelve months on the ground that the usefulness of the machine was probably greater abroad than in this country. With great respect, that hardly seemed a very good ground on which to hold up an award if the machine was worthy of it. The Society owed a great deal to the implement manufacturers at the Royal Show. Those manufacturers paid thousands of pounds more for their entry fees than the stockmen paid, and therefore it was up to the Society to help them in every way possible. One of the ways in which the Society could help those manufacturers was by awarding a silver medal, which not only carried weight here but carried weight abroad and helped British manufacturers to sell their goods in foreign markets. He thought it was not wise to lose sight of that in view of trade conditions in this country at the present time and the large number of British manufacturers who marketed overseas.

In presenting the DAIRY AND PRODUCE Committee's report, Mr. BURKITT said the Council would no doubt think it very satisfactory that matters had moved so quickly with regard to the marking of foreign butter. They were indebted to Sir Douglas Newton and Sir Archibald Weigall, their representatives on the Butter-marking Order Committee, for the satisfactory progress that had been made. Unless some unforeseen hitch occurred, it seemed that the time was not far distant when all foreign butter would be marked with the country of its origin and that all blended butter would be marked so as to show the British consumer that what he was eating was not the very best butter but some blend of inferior butters from abroad.

As to the importation of tinned skimmed milk, the recommendations of the Red Poll Cattle Society were of a rather drastic nature—namely, the prohibition of the importation of this machine-skimmed milk or its limitation by Protection. The Dairy and Produce Committee were of opinion that those were much too drastic, and therefore they did not see their way for the time being to take any further action on the matter.

Sir DOUGLAS NEWTON pointed out that a change of Minister had resulted in an immediate change of policy on the question of blended butter, and the stone wall that had faced them so far had been removed. Dr. Addison, on taking office as Minister of Agriculture, decided to put no obstacles in the way of an application being made for a Marking Order and being referred to the Standing Committee for consideration.

As they knew, he had the honour of being appointed as one of the delegates to the Special Butter-marking Order Committee, which was representative of the various interests, and was set up to see what action could be taken to press for the reference of this particular question to the Standing Committee. That Special Committee had met and put forward a definite application. In view of the fact that time was pressing he had ventured to take upon himself the responsibility of associating the Society, subject to anything that might be said in the Council to-day, officially with that application for a Marking Order, and he hoped that the Council would approve of the action he had taken.

Mr. H. P. **Mortimer** said he had looked into the matter very carefully and was interested to hear what Sir Douglas Newton had said. What had been done was splendid, and people did not realise what a great boon it would be to the dairy farmer. He had had some figures prepared—unfortunately, he had not got them at the moment—which went to prove that if all the butter sold in England were English butter made from English milk there would be no surplus milk at all.

Lord **Hastings** stated that there was an exhaustive debate in the House of Lords on the question of imported skim milk not long ago. It would almost electrify members of the Council to know that the imports of this skimmed milk, this alleged milk—for it was not milk at all—were no less than 100,000 tons. In other words, 100,000 tons of this peculiar mixture came into the country, and the annual increase in the importation was enormous. It was increasing at the rate of about 10,000 tons every year, and there was apparently an unlimited demand for it. That was understandable because it was very convenient. One could open a tin and stand it on the mantelpiece or anywhere else and get whatever one liked out of it. If a person liked to imagine that it was milk he could do so. At the present time the stuff was doing infinite harm to the British dairy business, and was making the question of the surplus milk from the summer production most acute. There was every indication that the industrial population would presently buy nothing else.

Whereas the debate in the House of Lords was inconclusive, inasmuch as the recommendations made by those who introduced the question did not meet with acceptance, it did ventilate the subject, and it was very helpful to know that before very long the public generally would realise the danger of the importation, that the agricultural community would rise up in arms against it, and that in due course something would be done. At any rate, the first steps had been taken. He would point out to the Council the extreme seriousness of the importation.

In moving the adoption of the **Research** Committee's report, Lord **Hastings** expressed the hope that some Members of the Council would be able to visit the Norfolk Agricultural Station to-morrow. He could promise them an interesting afternoon. The Council had subsidised the Norfolk Agricultural Station to some considerable extent, and the Station had done a great deal of work for the Council which had been of utility. Therefore it was to the general interest that as many Members of the Council as possible should visit the Station.

Mr. **Borlase Matthews** explained that his place at Greater Felcourt which Members had been invited to see was not a demonstration farm or a model farm. For many years he had taken an interest in the application of electricity to farming. He found that farmers generally were taking a good deal of interest in what was being done at the farm. That being so, he thought it would be very nice if the Council had an opportunity of coming down to see the farm. Further, he would be glad if those who came down would take lunch with him, notifying the Secretary if they were able to come.

The **Secretary** said that members would have noticed that the suggestion made at the General Meeting by Mr. Walton Maughan, "That a small committee be appointed to back up the Council and officials to go into matters connected with the poultry section with a view to increasing entries at the show and furthering the interests of poultry on the farm," had been dealt with by the Stock Prizes Committee and referred to the Special Sub-Committee which would meet in the autumn.

The second question, "That the railway companies be asked to grant reduced fare facilities to a second man travelling with stock to shows when only one vehicle is used," had been dealt with by the Stock Prizes Committee in the report of the delegates of this Society to the Railway Clearing House.

Sir **Douglas Newton** reported that he attended the show at Cologne on the invitation that was sent officially by the German Agricultural Society. It certainly was a most impressive show, but there were perhaps only one or two features that the Royal Show had not got. One feature was a very large tent wholly devoted to fishing and the fishing industry. There were fifty-eight tanks containing live fish, trout and other fish. Evidently the fishing industry in Germany was extensive, and was a very valuable part of the exhibition. He did not know whether it was in any way worth the Council's while to consider that fact.

The **Chairman** pointed out that fish had been exhibited as part of the Royal Show. Lord Denbigh had been concerned with it.

Sir **Douglas Newton** said that it was very well patronised, and was evidently of general interest. A good deal had been done in Germany with electricity in forcing agricultural products in frames and burying wires in the ground to give heat, and so on. That, of course, was a more or less new development. He was sorry that there were no exhibits at the recent Royal Show on those lines.

Another thing of interest was a large number of working models exhibited by the Ministry of Agriculture. That exhibited at the Royal Show did not impress him very much. Charts and lines and curves were of no use. If there was something moving, someone would always stop and look at it, and be interested at once in seeing what story it had to tell.

He was received very courteously on the other side owing to the letter sent by Mr. Turner. An interpreter was put at his disposal, and everything was done to make his visit as instructive and interesting as it could be made.

Mr. **Borlase Matthews**, who had also accepted the invitation to attend the Agricultural Show at Cologne, was struck with the courtesy extended to Sir Douglas Newton and himself, and very much supported all Sir Douglas had said. The chief impression made on him was that if he wanted to see live stock he would go to the Royal Show. They certainly had some very nice animals at Cologne, but he thought that this country was a good way ahead of them. In certain mechanical matters Germany was ahead of this country. In addition to the features mentioned by Sir Douglas Newton, he was struck by the very great improvement in the methods of transporting materials on the farm, cutting out that old-fashioned custom of a man carrying a load of hay on a fork from the rick to the cow byre. They were making a determined effort to cut out work of that kind in Germany.

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WEDNESDAY, NOVEMBER 5, 1930.

Lord Harlech (Trustee) in the Chair.

In the absence abroad of H.R.H. The Duke of Gloucester, K.G. (President), Lord Harlech was called to the chair on the motion of Mr. **Adeane**, seconded by Lord **Daresbury**.

The **Chairman** said it was with great regret that he had to announce the death of Mr. James Falconer, one of the members of the Council, who had represented Hampshire from the year 1905. He served upon the Implement Committee and the Chemical Committee. He was also an influential member of the Woburn Farm Committee, which ceased to exist in 1922, and took a very great interest in the investigations and experiments carried out at the Farm and the Experimental Station. As an arable farmer, he was keenly interested in all kinds of agricultural implements and machinery, evincing a very progressive spirit, and all the trials of new implements organised by the Society had his ardent support. Mr. Falconer was buried at Micheldever on October 13, and the Society was represented at the funeral by Mr. T. W. Ashton, his co-representative for Hampshire on the Council, and Dr. Voelcker, the Society's Consulting Chemist, who was a personal friend of Mr. Falconer for many years.

The CHAIRMAN was sure that it would be the wish of members to express their sympathy with the widow and relatives. He would therefore ask members to rise.

Carried, in silence, all standing.

The SECRETARY stated that Sir Douglas Newton wished to have the paragraph on page x of the printed Minutes, commencing "The only other thing," altered to "Another thing."

This was agreed to.

Three new Governors and 21 new members were admitted into the Society. One Governor and two members were re-elected.

Mr. ADEANE, in presenting the Report of the FINANCE Committee, was glad to be able to say that, instead of a loss on the Manchester Show, as had been expected when the Council met in July, there would be a very satisfactory profit. He did not propose to go into any detail, as the audited accounts would be laid before members next month.

He thought that from the commencement of Lord Daresbury's period of office as Honorary Director of the Show, his Lordship had very generoursly given a Dinner to the representatives of Breed Societies. That had been found extremely valuable to the Society as a whole, as it had enabled representatives of the Breed Societies, the Stewards and other members of the Council, to meet once a year. The proposal would come up on the report of the Selection and General Purposes Committee that the dinner be continued by the Society. That would naturally involve some small expense, but he hoped that the Council would sanction it.

Mr. BROCKLEHURST, in moving the adoption of the Report of the CHEMICAL Committee, wished to associate the Chemical Committee with the remarks made by the Chairman with regard to Mr. Falconer. Mr. Falconer had served for many years on the Committee, and, owing to his very wide experience and the great interest that he took in all its work, had been a most valuable member.

He would briefly refer to their old friend barley meal. The Council would remember that in the Fertilisers and Feeding Stuffs Act of 1926 the definition of barley meal was, "grinding commercially pure barley as grown." Speaking from experience, he had not yet found a single person who had been able to give a definition of what that meant. Traders in foreign barley had taken it to mean that they might grind up the barley and mix it with barley of a very inferior quality. That had meant a great hardship on the home producer, and the result had been that barley meal all over the country had deteriorated in quality to a very considerable extent. Exactly a year ago he attended with Mr. Smith and Dr. Voelcker as a deputation to the Ministry of Agriculture. The Ministry was very sympathetic, and had promised to take the matter before the Advisory Committee, but he was sorry to say that that august body, in spite of the efforts of Dr. Voelcker, could not see its way to giving a clearer definition. Last July the Middlesex County Council had instituted a prosecution for selling impure barley meal, and he was pleased to say that, after very careful consideration, a fine of five guineas and twenty guineas costs had been imposed. At last they had a definition with regard to what barley meal was, namely, that it was not to consist of more than 4 per cent. of other ingredients or impurities. That was very satisfactory, at any rate, from the point of view of those who had worked on the subject for something like two years. He was sorry about the attitude of the Advisory Committee. He thought that body might have helped in the matter some time ago. Judging from the papers, he was afraid that agriculture just now was not given credit for much in the way of brains. With all respect he could not help thinking that if the Advisory Committee could be inoculated with some bucolic bugs it would be a more useful body. (Laughter.)

The CHAIRMAN expressed regret that Mr. Brocklehurst did not propose to put his name forward for re-election as a county representative. He was sure that every member of the Council would be sorry that Mr. Brocklehurst had come to that decision.

Mr. BROCKLEHURST thanked the Chairman and the Council. He felt very much the parting from old friends and he wished to acknowledge the kindness that had been shown to him on the Council. The position was that he had left Gloucestershire, and although the members had been good enough to ask him to continue, he thought that the county should be represented by somebody living in it. He felt that probably he could not serve the interests of the county as well as a man on the spot could.

Sir MERRIK BURRELL, in presenting the VETERINARY COMMITTEE's Report, said that when the Council last met a very urgent letter was sent to the Minister of Agriculture on the subject of the continuance of the Royal Veterinary College. In his absence Colonel Stanyforth had very kindly given a very clear account of the difficulties that the College was experiencing, and had made extremely plain the great value of the College, not only to the nation but to the Empire. The letter had been sympathetically received by the Minister of Agriculture, and he (Sir Merrik) had seen the Minister and Mr. Dale on the subject. They were undoubtedly doing all that they could. During the holiday period the Governors of the College had done all that they could to raise funds from other sources, but he regretted to say that with the exception of one or two instances the efforts had been more or less unfruitful. He considered it only right that such a Society as the Royal should know that at the last meeting of the Governors of the College it had been decided to send a suggestion to the Minister with regard to the exploration of one last avenue. Whether that would be successful or not he did not know. Many disappointments had been met with in the endeavour to save the College. If the last hope failed, then, as the Minister of Agriculture had been told in the letter, they could no longer be responsible for carrying on in England a college of any importance, and it would be gradually closed down. The matter was an extremely serious one. In England there was only one other school of veterinary science, namely, that in Liverpool. It was small, and its activities were small compared with those of the Royal Veterinary College. The Liverpool College could only take a comparatively small number of students. He did not know what would happen to the necessary supply of efficient veterinary surgeons in London if the Royal Veterinary College closed. It the nation would neither from public funds nor by private subscription carry on the College it must be closed. It could not go on as it now was. There would not be enough money to pay the staff or for satisfactory equipment. He felt that it was only right that that great Society and the whole of England should know the state of affairs, notwithstanding the fact that everything that could be done had been undertaken.

Sir ARCHIBALD WEIGALL speaking as treasurer of the College and a governor, associated himself with everything that Sir Merrik Burrell had said. It was due to the Council that he should tell them that as treasurer he informed the governors six months ago that unless the Government would shoulder responsibility as every other European Government was doing, the College could not be carried on owing to the lack of financial support. Obviously the Government imagined that they were not serious, and the answer made in the House of Lords to Lord Harewood clearly showed that it was not in any way seized of the seriousness of the position. He hoped that what had been said that morning would convince the Government, if nobody else, that the College must close next year unless the Government was prepared to assist.

The Report of the STOCK PRIZES Committee having been presented, Mr. ROBERT HOBBS asked to be allowed to make an appeal on behalf of owners of Grade A (T.T.) herds. When the question was brought up last year the consideration had been postponed on the ground that it was too late. This year the excuse had been made that the T.T. breeders did not know what the conditions were. As things stood at present, they could take T.T. cows to the Royal Show and tie them up between two other cows. What happened when the cows were taken home was that they had to be isolated for three months, and the milk had to be poured away. They were not asking for a glass-house in which to put the cows, but merely that a shed should be put up 90 feet away from other cow-stalls, and that they should be tied there. Last year such accommodation was afforded at all leading shows. As a member of the Royal Agricultural Society, he was rather ashamed at having to stand before the Council and bring the matter forward. He felt that it ought not to have gone beyond the Committee stage. He begged to appeal for accommodation at the next Royal Show.

Mr. JOHN EVENS said that the Committee had requested the Ministry of Health to give exact details of their requirements. The question of isolation had been very fully discussed by the Stock Prizes Committee. The finding of the Committee was that owing to the number and variety of animals what was required could not be done as a practical proposition.

Sir ARCHIBALD WEIGALL gathered that the real answer was that it would cost too much to comply with the regulations, and he thought that that was a tragic answer to Mr. Hobbs. It would be a tragedy for it to go out to the world that because of the number and variety of animals to be accommodated simply on the score of expense the public could not be supplied with milk free from tuberculosis germs.

Mr. JOHN EVENS said that the Committee were willing to have the question referred back for full discussion. It was not a question of expense at all. That had not been considered. As he had stated, the Ministry had been asked for full particulars of its requirements. In the meantime, owing to the number and variety of animals, the Committee did not feel able to carry out what was proposed.

Mr. HOBBS said that the requirement was carried out even at a very small show like the Dairy Show. He would move that the question be referred back.

Sir ARCHIBALD WEIGALL seconded the motion, and it was carried.

Colonel STANYFORTH, in presenting the Report of the IMPLEMENT Committee, wished to mention especially the Tractor Trials. He had spoken at some length in July with regard to the arrangements, the entries, and the tests made so far. The Council would be glad to hear that since then extremely satisfactory demonstrations had taken place, and he understood that a good deal of trade had been done. He had spoken to several exhibitors, who seemed very satisfied. The Council, he thought, could be congratulated on the fact that it had agreed to spend £500 on tractor trials. Personally, he had been very much amazed to see the rapid strides that had been made in ten years, both in regard to the efficiency of tractors and cost. The trials had been a great success, the work being done extremely satisfactory. For that they were indebted to several people. In the first instance, the Institute at Oxford carried out tests, and did the work exceedingly thoroughly and well. Their consulting engineer, Dr. Owen, who was practically responsible for the whole of the work, was absent in the summer in America, and therefore a good deal had fallen on Mr. Wright. He was sure that all would agree that Mr. Wright had done incalculable service, and he would like him to know that his extraordinarily good work was appreciated by the Society. Some of the land had proved to be unsuitable, and they were therefore in a tight corner, but Mr. Loyd, a member of the Council, had got them out of the difficulty by at once providing ground for demonstrations. Mr. Loyd owned a good deal of land in the neighbourhood. The ground that he provided was extremely suitable for the purpose, and he and his agent, Mr. Lousley, had done all that they possibly could to make the trials successful. Mr. Loyd had been most kind, and, if possible, he would like a letter written to him expressing the thanks of the Society for what he and his agent had done and saying how much it was appreciated.

The volume giving the report of the trials contained information of enormous value, and could be obtained for a shilling. He would advise all who could do so to secure a copy at once. It was rather large, and it was thought that it could, with advantage, be condensed for the Journal.

Lord DARESBURY, in presenting the Report of the SELECTION AND GENERAL PURPOSES Committee, said he wished to refer to Sir Arthur Hazlerigg, the President-elect. (Applause.) They had known Sir Arthur for many years, and they owed him a great debt of gratitude. He had looked after the horticultural exhibition, one of the most paying sections of the show. He was sure that in his year of office he would have the support of the whole of the Society, and that it would be a successful year in every way.

Sir ARTHUR HAZLERIGG said that he very greatly appreciated the action of the Committee in nominating him as President, and was grateful to the Council for approving their action. He regarded it as a great honour indeed, and he would do his best to be worthy of the confidence that it was proposed to place in him. He knew that he could rely on Mr. Burke and on the kind help and advice of Lord Daresbury and the help of every member of the Council.

In moving the adoption of the Report of the DAIRY AND PRODUCE Committee, Sir ARCHIBALD WEIGALL said the Council would remember that on the advent of the Minister of Agriculture an omnibus committee was allowed to make a formal application to the Standing Committee. The application was under consideration. The Committee had not yet finished taking evidence. He had given evidence on behalf of every Breed Society in the country. He had made it perfectly clear that he had no authority whatever to give evidence on behalf of the Society. He saw that Dr. Stenhouse Williams was down to give evidence next week on behalf of the Royal.

Sir MERRIK BURRELL, in moving the adoption of the RESEARCH Committee's Report, said that the Duke of Devonshire, who had been unable to be present at the meeting, had asked him to do so. He would call attention to the report on the results of the grassland experiments at Shoby. He hoped that members would shortly have the report in their hands. Several very interesting points had come out. One of the points was that feeding cake on land which had been properly cultivated and to which basic slag had been applied was uneconomical, and, further, that no residual value of the cake could be found, and that it even seemed to have a depressing effect. That could not be taken as final without further investigation, because it opened up a very wide field. It might even affect tenants with regard to outgoing value. The Committee considered the matter so important that further simple experiments would be undertaken.

With regard to lucerne inoculation, the money which for many years had been spent in subsidising Rothamsted was bearing very good fruit. Up to the time when the cultures were put out to farmers the area of arable land had been decreasing for many years, and the area under lucerne had been decreasing even faster, but from that date the area under lucerne had increased rapidly. The returns showed that in the last twelve months it was the only arable crop which had shown any increase, and the increase had been considerable. In the last year Allen and Hanburys had sold sufficient cultures to inoculate about 4,000 acres. That was four times as much as in previous years. It would therefore be seen that the work was helping people to grow this very valuable crop.

One point was that where the bacteria had been used some disturbance had been shown amongst other bacterial populations in the soil. In some cases it had been beneficial, and in others it had had a bad effect. That point would be followed up to see exactly where it led.

Cultures from other sources were being put on the market, and he would like to utter a word of warning to farmers. The only cultures which went out with the Society's blessing behind them and the blessing of Rothamsted were sold by Allen and Hanburys. For the present it could only be claimed that they benefited lucerne. If farmers who thought that they would benefit other plants were disappointed in the future it would be their own fault.

Analysis of the Woburn experimental data was bringing to light a good deal of valuable information, and he hoped that Sir John Russell would be able to present an interim report of considerable interest. The money spent on analysing the mass of data was being well spent.

The Report of the Council to be presented to the annual meeting of the Governors and Members on December 10th was prepared and ordered to be issued.

WEDNESDAY, DECEMBER 10, 1930.

LORD DARESBURY, C.V.O. (Trustee) in the Chair.

In the absence abroad of the President, H.R.H. the Duke of Gloucester, K.G., Lord Daresbury was called to the chair on the motion of Mr. ADEANE, seconded by Mr. BURKITT.

The CHAIRMAN said: My Lords and Gentlemen, before I proceed with the business on the agenda, I have with great regret to announce to you the death of one of our Vice-Presidents, Mr. Ernest Mathews; one of our members of Council, Colonel Abel Henry Smith; and the Editor of the Society's Journal, Mr. C. J. B. Macdonald.

Mr. Ernest Mathews died at his home at Amersham on November 25. He was, as you know, greatly interested in this Society, and had done a great deal of useful work extending over a very long period. He was elected a member in the year 1881, a Governor and Vice-President in 1915. Originally elected to the Council in the year 1904, under the old Charter, he was re-elected in the following year by the members of the Society under the new Charter, as their representative for Buckinghamshire.

He was Steward of Dairying at the Royal Show from the year 1905, when the Show was at Park Royal, until 1928, and served upon the Finance, Journal and Education, Veterinary, Stock Prizes, Selection and General Purposes and Research Committees, and was Chairman of the Dairy Committee from 1906 until his resignation in 1928.

He was President of the Society in the year 1924, when the Show was held at Leicester. He also represented the Society on many other bodies: The National Agricultural Examination Board from 1908 to 1928, and of this body he was Chairman in 1920, 1921, 1923 and 1925; the National Institute for Research in Dairying; the Agricultural Education Conference: the Oxford and Reading Joint Committee; and the General Committee of the World's Dairy Congress.

He was also a member and honorary member of many breed societies. He was a practical farmer and breeder of Jersey cattle and Southdown sheep, and I think it can be said that investigations into the milk yielded by various breeds of pedigree stock was first undertaken by him in connection with his work at the Dairy at the Royal Show.

When the Show was held at Cambridge in 1922, the University conferred upon him the honorary degree of LL.D. He was also Hon. Treasurer at one time of the Royal Veterinary College. Indeed, his activities and interests covered many spheres.

In his passing the Society had lost a loyal and stalwart supporter.

The Secretary, Mr. Turner, represented the Society at the funeral.

Colonel Abel Henry Smith had represented his county of Hertford on the Council since 1928. He was present at our last meeting in November, but met with an accident in the hunting field on Monday, the 10th November, which unfortunately proved fatal. His period of service on the Council was a short but useful one, and we were all looking forward to the time when he would take a more active interest in the Committee and Council work. Sir George Courthope represented the Society at the memorial service in London.

Mr. Macdonald succeeded Mr. Orwin as Editor of the Journal at the end of 1926, but that was not his first intimate connection with the Society or its work, for in June 1923, he was elected an Honorary Life Governor of the Society in recognition of his great services to agriculture. He had always taken a great interest in the affairs of the Royal Agricultural Society of England, apart from his knowledge of and affection for the industry he served so well in the public Press. In the War years he did a tremendous lot in connection with the Agricultural Relief of Allies Committee, and actually paid a visit to the devastated area, where stock was sent to replace the wastage caused by the War.

In every sense he was a keen, practical, and scientific agriculturist, as well as a human and lovable character. His services on the Chemical and Research Committees of the Society, which he attended as recently as November last, are a great loss, and he can ill be spared.

The Society was represented at the memorial service and the funeral, by Sir Walter Gilbey, the Rev. C. H. Brocklebank, Mr. B. J. Gates, and the Secretary, Mr. Turner.

I know it will be your wish that the sympathy of the Council shall be extended to the relatives of these gentlemen in the bereavement they have sustained, and I will ask you to signify this by rising from your seats for a few moments.

The members rose accordingly.

The SECRETARY read the following letter from Mrs. Falconer:—"November 12, 1930.—Dear Mr. Turner,—Will you please convey to the Council of the Royal Agricultural Society my thanks for their kind sympathy in my bereavement. Agriculture was the one interest of my husband, and it was a great grief to him that lately his failing health prevented him being a regular attender at the meetings. The reference made by Lord Harlech will be treasured among other very kind things which have been said and written to me and to his family in their sad days.—Yours faithfully, G. MARION FALCONER."

One Governor and 18 new members were admitted into the Society.

Mr. ADEANE in presenting the Report of the FINANCE Committee said that the Show accounts were in the hands of the members of the Council, and he was therefore sure that they did not wish him to trouble them with many figures. The result of the Manchester Show was very much better than had been expected, and the surplus amounted to £2,858. The total receipts at Manchester amounted to £50,807, as against £58,600 at Harrogate, a decrease of £7,793, mainly due to a reduction in the number of admissions to the showyard. No doubt the cause was the great depression prevailing in Manchester and the district at the time. The total expenditure at Manchester was £47,949, against £49,804 at Harrogate, or a decrease of £1,855. The saving of expense in connection with the cost of erection of the showyard to a great extent accounted for the decrease.

Although the Manchester Show did not establish any record, it was well up to standard. As at Harrogate, everything was favourable. The President of the Society, H.R.H. the Duke of Gloucester, attended the Show on two days, and his presence added very much to its success. (Hear, hear.) The Society parted with His Royal Highness as President with very great regret, and only wished that he was present to-day to receive the thanks of the Council for his extremely pleasant and able conduct in the chair.

On such occasions as the present they always acknowledged the great work done by the Local Committee in connection with the Show. He would like to mention, in thanking the Local Committee, the name of Mr. J. Herbert Hall, one of the honorary secretaries. Mr. Hall had given invaluable assistance, and through him the Society wished to thank the Local Committee for the generous contributions of £678 to the cost of fencing the showyard and of £400 to the Show Fund.

The Society also wished to thank the Lord Mayor of Manchester for the kind hospitality he had extended to the Society.

He knew with what regret the Council would to-day, for the last time, express its thanks to Lord Daresbury as Honorary Director, not only for his services at Manchester, but for his services during the last twenty-five years. (Hear, hear.) It was a pleasure to know that Lord Daresbury would remain with the Society. He was sure that his lordship would always be ready to put his advice at the service of the Society and to give the members the benefit of his long experience.

The Society was also indebted to Mr. Turner, the Stewards and the Staff, on whose services the success of the Show largely depended. They could assure Mr. Burke, who was now taking up the onerous duties of Honorary Director, of their whole-hearted support.

There were one or two points in the report of the Finance Committee on which he would like to speak. As members had heard, it was proposed that the charge for admission to the Show on Friday should be reduced from 3*s*. to 2*s*. 6*d*. It was hoped that the reduction would so far increase the attendance as to compensate for the reduction. It was also proposed that children under fourteen years of age should be admitted at half price. Up to now organised parties of children from schools had been admitted on a certain day at half price, and it was proposed to extend that privilege to all children throughout the full period of the Show. He hoped that the extension would be appreciated by the members of the Society, and also by the general public. It was felt that the present charge fell very heavily on a man who wished to bring his family to the Show.

The garage charges were found to be excessive, though profitable to the Society, and Mr. Burke had urged that they should be reduced to 3*s*. for the first four days of the Show and 2*s*. on the Saturday, and that the charge for a season ticket should be 10*s*.

The introduction of the double-row shedding recommended by the Stock Prizes Committee would mean a great economy, and would enable the Society to reduce the entry fees for cattle to £2 10*s*. for members and £5 for non-members.

These were the only points upon which he wished to remark.

Lord CORNWALLIS in moving the adoption of the JOURNAL AND EDUCATION Committee's Report said that the Committee would like to associate themselves with what the Chairman had so well said about the late Mr. Macdonald. He would be missed very greatly indeed, both personally and officially. They hoped to complete the Journal, but possibly one or two features might be wanting in the next volume. Further, they hoped to be able to recommend a successor in February next, and he would ask any member of the Council who had a name to suggest to write to him or to the Secretary before the end of the year. As a rule the Society did not advertise when making this appointment.

Mr. BROCKLEHURST, in presenting the CHEMICAL Committee's Report said that the Committee wished to associate themselves with the expression of regret at the death of Mr. Macdonald. The Committee had been hoping that his abilities and geniality would be at the service of the Council for many years to come.

In presenting the Report of the VETERINARY Committee, Sir MERRIK BURRELL stated that at the request of the Committee he had got into touch with the Veterinary Department of the Ministry of Agriculture and enquired about the somewhat mysterious trouble in Yorkshire. He was glad to say that the Department was able to assure him that the fear that the disease might be pleuro-pneumonia was groundless, and that although it was a form of pneumonia they did not think that it was in any way of an alarming type. Investigations were continuing to try to find out more about the matter.

Mr. JOHN EVENS, in moving the adoption of the Report of the STOCK PRIZES Committee, would like to say a word about the suggested alteration to double-row shedding. The matter had been very fully considered by Mr. Burke, the Honorary Director, and by the Stock Prizes Committee, and the Committee unanimously recommended the alteration. It was suggested that the cattle should stand head to head with a partition between them of inch boarding grooved and tongued, the boarding to be up to the eaves 6 ft. 9 ins. in height. Where by chance two old bulls happened to come opposite one another it was proposed that the boarding should be doubly thick. The advantages claimed were that the stock would naturally take less room in the showyard and that visitors would be prevented from annoying the animals in passing. Further, the stalls would be much less draughty, and it was thought that there would not be the same need for sheeting during the daytime. The chief advantage was a saving of fully ten shillings per head in the shedding charges for cattle, and the Committee suggested that the saving should be handed on to the exhibitors in the form of reduced entry fees. In that case the entry fees would be reduced for members from £3 to £2 10*s*. Taking the number of cattle exhibited at Manchester (1,119) it worked out as follows:—Though an entry fee of £3 each was paid, the shedding and feeding involved the Society in a loss of £363. It was estimated that with double shedding and the entry fee reduced from 60*s*. to 50*s*. the net loss to the Society would only be about £70 instead of £363.

The reason why the matter was brought forward now was that it was necessary this year to have a new contract for canvas, and the question must be decided before a contract was entered into.

The CHAIRMAN said that the following new members of Council were present that day:—Major C. C. Hansford (Gloucestershire), Mr. H. A. Benyon (Berkshire), Mr. Eustace Abel Smith (Lincolnshire), and Mr. J. Egerton Quested (Kent). He welcomed them on behalf of the Council.

Mr. BURKITT moved the adoption of the DAIRY AND PRODUCE Committee's Report. It would indeed be remiss on the part of the Committee, he said, if they did not express their very great sense of loss by the death of Mr. Ernest Mathews. As members knew, Mr. Mathews' chief work was done on the Dairy Committee, and possibly nobody appreciated better than his successor how great that work was. Having regard to the sound foundation on which Mr. Mathews built, the Society would benefit in this department of its activity for many years to come.

He could not deal with the question of cream now, as the matter was *sub judice*. There was a case in the Courts at the present time.

Sir ARCHIBALD WEIGALL said that it was not absolutely correct to say the Committee had come to the conclusion that nothing further should be done on the question of evidence before the Standing Committee on butter-marking. All that the Committee had decided was *that counsel for the applicants should be allowed to say that the evidence given on behalf of the whole of the cattle breeding societies of the country was corroborated by* *the Royal Agricultural Society of England.* That was in order to avoid the expense of having redundant evidence given on behalf of the "Royal."

Sir MERRIK BURRELL said that as the Duke of Devonshire had not been present at the RESEARCH Committee meeting when the report was drawn up he had asked him to move that it be received and adopted. In doing so, he would like to emphasise the note in the report that "Agricultural Research in 1929" had now been published. He hoped that at any rate all the Members of the Council would ask for a copy, and, further, that all members of the Society would do so. They could get it free by applying for it, and the public could get it for the very small sum of 1*s*. He very much doubted whether any book published to-day in any part of the globe containing so much valuable information could be obtained for so small a sum. He hoped that all the members of the Society would push the valuable little volume amongst the farming community. Its sales all over the world went up year by year. It was only a matter of more people reading it for more people to want it each year, and in that case the labour expended would not be thrown away.

Mr. FENWICK stated that he had been asked by several members of the Society, who were not members of the Council, to bring up the question of the turnip fly. As all present knew, the turnip fly did thousands of pounds' worth of damage each year, and this year it had done hundreds of thousands of pounds' worth. Was it possible for the Research Committee to carry out experiments on the subject? The Ministry of Agriculture had issued a very useful leaflet, but he thought that something further should be done. He merely wished to bring the matter to the attention of the Research Committee. He thought that most farmers would confirm what he had said.

Lord HASTINGS said with regard to the turnip fly, the matter came within the sphere of the Botanical and Zoological Committee and not under the Research Committee. Mr. Cecil Warburton, the Society's Zoologist, reported monthly to the Committee of which he (Lord Hastings) was Chairman. The question of the turnip fly was of such importance during the last summer that he had communicated early with the Zoologist on the subject. Mr. Warburton had written an exhaustive memorandum for publication in the Journal in the Spring. The Report dealt with past research into the turnip fly, and the Zoologist had added information from his own knowledge. If members thought it proper that the report should be published prior to the issue of the Journal and would say so he would approach the proper quarter on the matter. It would hardly be necessary, he thought, because they might anticipate that the Journal would be published before the fly gave much trouble next year. All the information on the subject and the result of the research work had been crystallized in the memorandum, and it would not escape the notice of those dealing with the matter.

Sir MERRIK BURRELL stated that he was trying to get a trap which had been used with success at a County Institute farm last year. He was to have a model of the trap. He was told that the device was effective, but he would rather try it before making up his mind.

The following standing Committees were appointed for 1931:—Finance, Journal and Education, Chemical, Botanical and Zoological (Forestry and Orchards), Veterinary, Stock Prizes, Judges Selection, Implement, Showyard Works, General Show, Selection and General Purposes, Dairy and Produce, Horticultural and Research.

On the recommendation of the Committee of Selection, the present members of the various Standing Committees were (with some exceptions) reappointed to those Committees.

The Earl of Radnor was added to the Journal and Education Committee; Mr. Quested to the Veterinary, Stock Prizes and Judges Selection Committees; and Mr. S. Owen Webb to the Stock Prizes, Judges Selection, Implement and Showyard Works Committees.

Proceedings at the Annual General Meeting of Governors and Members,

HELD AT THE ROYAL AGRICULTURAL HALL, ISLINGTON,

WEDNESDAY, DECEMBER 10, 1930.

THE EARL OF HAREWOOD, K.G. (VICE-PRESIDENT), IN THE CHAIR.

Chairman's Opening Remarks.

The CHAIRMAN: My lords and gentlemen,—It is for the second time this week that I find myself in the position of deputising for the President of the Royal Agricultural Society of England, His Royal Highness the Duke of Gloucester—not on account of any want of interest or keenness in the work of the Society of the Duke of Gloucester, but on account of his unfortunate absence abroad, which has prevented him from attending these meetings this week, although, as you all know, he has been a most regular attendant to the duties of President throughout his year of office. (Hear, hear.)

I should like first of all to read to you a letter which I have received from him:

"Dear Lord Harewood,—I understand that you will be making the speech which I should have been responsible for at the annual general meeting of the Royal Agricultural Society of England. I should be grateful if you would express to the Council and members my sincere regret that absence abroad prevents me from performing this my last duty as President. It has been a real pleasure and interest to me to take part, as I have done this last year, in the deliberations of such a Society, whose existence and well-being I regard as a national asset, especially at the present time, when agriculture in England is admittedly in somewhat difficult circumstances. The chief event of the President's year is, of course, the show, and I was very glad to be able to spend two days at Manchester." (Hear, hear.) "It is satisfactory to hear that the financial result was a balance on the right side, and I really think that under the circumstances we can congratulate ourselves that no loss was incurred. You will, I know, deal in your speech with all the events of the year, but I should like to express my regret at Lord Daresbury's resignation from the post of Honorary Director, and my appreciation of the work that he has carried out so efficiently, not only during the year of my presidency, but for many years before. I wish his successor the very best of luck, and I shall continue to take the greatest interest in all the affairs and doings of the Society.—Yours sincerely, HENRY." (Cheers.)

I am sure you will wish that the first motion that I put before this meeting should be a hearty vote of thanks to the President of the Society who is retiring. (Hear, hear.)

May I take that as being passed, if you will kindly give me a show of hands to signify your approval.

The motion was carried unanimously.

The CHAIRMAN: The President suggested that I should deal with all the matters of importance which have occurred during the year. I am going to refer you to the report, and in that report you will find in detail the greater part of those matters of outstanding importance. I am going to mention but a very few of them. The first point which I must bring to your notice with regret is the decline in membership. I am afraid that this is very nearly a hardy annual; but in view of the very difficult financial circumstances in which all are placed who depend upon agriculture for their income it is very difficult to see how this can be rectified. I suggest to you, and I am sure it has been suggested from this place before, that there is but one remedy, and that is that members of the Society should personally bring to their friends interested in breeding and in agriculture the advantages which accrue to members of the Society. That is the only way in which we can hope to fill the gaps which deaths and resignations make in our ranks ; and I do hope that members of the Society will exert themselves in that direction. (Hear, hear.)

You will see from the report that a new lease has been taken from the Duke of Bedford of the present offices in Bedford Square, under conditions which, I am sure, you will consider very favourable, and the Society is to be congratulated that there should be no necessity for the removal of its headquarters for some years to come.

Now a word or two in regard to the Show at Manchester. No one but those closely associated with the officials who have carried out the details of the Show know of the difficulties which were encountered, but these difficulties have been considerably lightened by the very real help given by everyone in the Manchester district. (Hear, hear.) A most pleasant feature has been the good will which has been shown by the Royal Lancashire Agricultural Society. (Hear, hear.) That Society withheld its Show and threw its organisation wholeheartedly to the support of the Royal Society.

I should like to mention that the Royal Lancashire Agricultural Society presented our Secretary, Mr. Turner, with a silver salver as a memento of the occasion. (Hear, hear.) While congratulating him upon that, I should like to emphasise the fact that I think it shows the tact and the appreciation of the tact of our officials when they come to deal with local organisations. (Hear, hear.) Everybody at Manchester rendered the utmost possible service—the Lord Mayor, Mr. Alderman Davy, but most of all, perhaps, Mr. Herbert Hall—(hear, hear)—who acted as Local Honorary Secretary in conjunction with the Town Clerk of Manchester. He has had much experience of shows, and acted in this capacity when the Royal Show was held at Manchester in 1916. I am sure that Lord Daresbury would be the first to admit that he was of the greatest assistance in overcoming the difficulties encountered at Manchester. To Mr. Little, of the Town Clerk's department, and to Mr. Chawner, the Secretary of the Lancashire Agricultural Society, the gratitude of this Society is extended also.

The next Royal Show will be held at Warwick in the Lower Park of Warwick Castle, a site which is, I suppose, unrivalled for the purpose in the whole country. Preparations are going forward, and every assistance is being rendered by the local authorities, and I feel confident that the show will be the greatest possible success. The Warwickshire Agricultural Society is celebrating its centenary next year, and that celebration is taking place in perhaps to some extent an unusual way, by the suppression of their own show and by replacing it with the Royal Show. (Hear, hear.) I think we have to offer them our very sincere thanks for the manner in which they are celebrating their centenary, and wish them the very best of luck.

There is one other item which I should like to mention : that in September last the Society, in conjunction with the Institute of Agricultural Engineering at Oxford, organised world agricultural tractor trials. Those trials were carried out on quite a different basis from all other trials in the past. All machines entered had to undergo a thorough test of a scientific, engineering and practical character before they were submitted for the final demonstration in September. The details are contained in the Report, and everybody, I know, will gain useful knowledge by reading them.

This is only one instance of the very direct help which the Royal Agricultural Society gives to the farmers, and is fully in keeping with the motto of the Society: Practice with Science.

There are many other matters dealt with in the Report: one especially I should like to mention: the work carried out by the Society in administering the Quarantine Station in the Port of London for the export of pedigree stock to the Dominions overseas. This is another real and practical way of helping the breeders of pedigree stock, and without which the difficulties of selling overseas would be very much increased.

We shall presently have the pleasure of proposing to you the President for the Society for the coming year in the person of Sir Arthur Hazlerigg. (Hear, hear.) Sir Arthur has great and extensive knowledge of agriculture; he is an invaluable public servant, and I am sure that you will receive his name as your next President with acclamation. (Hear, hear.)

I shall also presently have the honour on your behalf of making a presentation to Lord Daresbury. (Hear, hear.) I am going to say no more at this moment with regard to the services which he has rendered to the Society, but I am quite certain that any words which I may use in a few minutes will but poorly express the feeling which you have towards him.

Finally, I want to take this opportunity of expressing to Mr. Alexander Parker the thanks of the Society for the arrangements which he has made for the meeting in this club room. (Hear, hear.) Year after year he is good enough to do this, and the Society owes him very grateful thanks. (Hear, hear.)

Accounts.

I will, with your permission, gentlemen, proceed to the business of the Meeting. The first part of it is the presentation of the balance sheet for 1929, together with the accounts for the Manchester Show, which are in your hands. I beg formally to present them.

The next item is the Report of the Council, which has been printed and circulated through the post to each Member of the Society.

Is it your wish that it be taken as read?

Agreed.

Report of the Council.

Mr. TOM THOMSON: Lord Harewood, my lords, ladies and gentlemen, it is a great pleasure to have the opportunity of proposing the adoption of the report. In the first place, I have the opportunity of conveying the thanks of the members to the Council for the very energetic and successful way in which they have conducted this Royal Society during the past year.

In the report there appear to be several items of striking character; but what impresses one first is the unfortunate removal of Mr. Macdonald from our midst. I am sure that members regret, with the Council, the sad loss that agriculture has suffered in the death of our very highly respected Editor. He was a familiar figure at all the shows and other agricultural occasions, and we must recognise his great ability in transferring agricultural thought to the world at large in a very practical manner. (Hear, hear.)

Another thing to be mentioned is our great regard for Lord Daresbury and our regret that he has considered it time to retire from management of the show. I am sure the golden shadow which I see on the table, which was reflected in Lord Harewood's comment on the somewhat unfortunate position of agriculture, must have been tinged by the reflection in front of us.

Mention, perhaps, ought to be made by members of the striking result of the test of the Spahlinger cure for tuberculosis, and probably the Council of the Royal Agricultural Society will secure the earliest opportunity of associating themselves with that very remarkable discovery and its possible results.

It is not for me to detain the meeting this afternoon; consequently I will, with the greatest pleasure, propose the adoption of the report.

Mr. J. **Hamilton**: My Lord Harewood, my lords, ladies and gentlemen: I feel honoured at being asked to second the adoption of this Report, so ably proposed by my friend Mr. Thomson, and it is with the greatest possible pleasure that I do so. There is no occasion, I think, to go through any details, but Lord Harewood has kindly mentioned the fact of the Lancashire Show not being held at the time of the Royal Show; and if you look at that paragraph pertaining to it, I can assure you that it is no mere formal matter. What the Royal Society offered there was very much appreciated by the County Society—(Hear, hear)—but I frankly admit that I was disappointed at the attendance at the Manchester Show and was quite prepared to hear that we were to meet with quite a substantial adverse balance. I am further disappointed because I fully expected that the holding of the show in Manchester and the facilities you had offered to our County Society would enable us to get more members for the Society from Lancashire; although we do not give up hopes, we will hope that they will come in.

There is one other matter, and that is the paragraph in regard to research. I am more than pleased that the Royal Agricultural Society is prosecuting this with vigour, and hope that it will continue to do so. It is on these lines that we hope to benefit, and there is great room for research in agriculture.

I have the greatest possible pleasure, my lord, in seconding the adoption of the Report.

The **Chairman**: My lords, ladies and gentlemen, you have heard the adoption of the Report proposed and seconded; is it your pleasure to adopt it.

The motion was put to the meeting and carried.

Election of President.

The **Chairman**: The next item is the election of the President, and I call upon Lord Daresbury to put this matter before you.

Lord **Daresbury**: Lord Harewood, my lords, ladies and gentlemen: I have to propose that Sir Arthur Hazlerigg, Bart., be elected President, to hold office until the next ensuing Annual General Meeting. I have known Sir Arthur for very many years, and I do not think there is anybody in this country who is more fitted to be President of the Royal. (Cheers.) He is connected with agriculture in the Midlands, and he is one of the hardest workers we have ever had at the Show; he has stuck to the Horticultural Section, and he is at it day and night. I am sure we are all pleased that he has made such a wonderful success of our Flower Show. (Hear, hear.) I do not intend to say any more about him; I think he is quite big enough to talk for himself. I beg to move that Sir Arthur Hazlerigg be our President for the ensuing year.

Sir **Douglas Newton**: My lords, ladies and gentlemen: It gives me much pleasure to second the resolution for the election of Sir Arthur Hazlerigg, which has been proposed in such very pleasant terms by Lord Daresbury. Although Lord Daresbury said that Sir Arthur Hazlerigg is big enough to speak for himself, nevertheless there are some things which perhaps he would not care to say himself, but which I, personally, would very much like to say about him.

It gives me, I may say, great gratification to be permitted to submit his name to this meeting, because I feel that he is specially qualified, specially fitted, to undertake this very responsible and, it seems to me, on some occasions, very exacting and arduous duty associated with the post of President of this Society.

He has already held, and I think adequately filled, almost every important office in his own locality and in the neighbourhood where he dwells. He has been a good sportsman; he has been captain of the Leicestershire County Cricket Club (hear, hear); he has been in administrative circles; he has been Chairman of the Leicestershire County Council; and he now holds the high office of Lord Lieutenant of his county. In short, ladies and gentlemen, whatever he puts his hand to to accomplish, he does: whatever organisation he joins, in a short time he rises to the top. And to-day his name is being submitted to our great agricultural organisation as its President, because of the valuable work he has rendered, the distinguished service which he has given to this Society—not for a year or so, but for many years past.

He is the principal organiser, as Lord Daresbury said, of the Flower Show, a show which attracts thousands of people to our Exhibition who would otherwise not come. (Hear, hear.) He has directed that with exceptional ability; in fact, some people say that *he* is the show. (Laughter.)

The industry of agriculture is in a trough of depression at the present time, through high production costs and depressed markets, and it is very difficult indeed for the farmer, or for those associated with him, to make satisfactory headway. I think, however, there is one bright spot; we, at any rate, have sunshine in our hearts and no moonshine in our heads, and it is, perhaps, being increasingly recognised, not only by our nation, but by other nations—both national and international—that agriculture is the fundamental primary industry, and that unless it enjoys, and is assured of, a reasonable measure of success, all other industries must inevitably suffer. (Hear, hear.)

I venture to say that there never was a time, unfortunately, when agriculture was in a more serious position than it is in to-day; there never was a time when agriculture was in more urgent need of help and assistance; and if we elect (as I feel sure we shall do) Sir Arthur Hazlerigg to fill this high office in our Society within the strict limits of the charter, there never will be a time when we shall have a President who will work harder or better put forward the interests of the Society and of everyone. (Hear, hear.)

I would like to add, if I may, one personal note: We all wish at all times to do what we can to help our friends. Now, Sir Arthur Hazlerigg is a very old friend of mine. I was at school with him. I have known him all my life as a close and good friend, and I can assure you that it gives me additional and extreme satisfaction to be permitted to propose his election. (Cheers.)

The CHAIRMAN: My lords and gentlemen, you have heard the motion proposed and seconded:

"That Sir Arthur Hazlerigg, Bart., be elected President of the Society to hold office until the next ensuing annual general meeting."

The motion was put to the meeting and carried unanimously.

Sir ARTHUR HAZLERIGG: My lord Chairman, Lord Daresbury, Sir Douglas Newton, my lords, ladies and gentlemen,—I wish first of all to thank Lord Daresbury and Sir Douglas Newton for the very nice way in which they have proposed my election, and I wish to thank you all, ladies and gentlemen, for the extremely kind way in which you have taken that proposal. I feel it is a very great honour, and I shall try my best to be worthy of that honour which you have conferred upon me.

May I say one word about the proposer? I feel it is a double honour to be proposed for the office of President of the Royal Agricultural Society of England by Lord Daresbury. (Hear, hear.) It has been not only a pleasure but a real joy to me, as to many others, to serve as Steward and Assistant Steward under Lord Daresbury. (Hear, hear.) In fact, I think we might say that we have been a company of good companions. (Hear, hear.) Although several of us happen to be old Etonians, now they have referred to us as decent fellows.

We have heard, and very rightly, during this afternoon and once or twice in previous meetings this week, of the great loss the Society will suffer when Lord Daresbury vacates his position as Honorary Director, but I venture to suggest to you, ladies and gentlemen, that the very greatest compliment we can possibly pay to Lord Daresbury is to make this Show at Warwick, and succeeding shows, even greater successes than the ones he has managed so ably—(hear, hear)—because he will then know that it was not only by his personality and, may I add, the charming personality of her ladyship—(hear, hear)—but also that he has built on a sure and sound foundation the future success of the Shows of the Royal Agricultural Society of England. (Hear, hear.)

May I thank also my old friend, Sir Douglas Newton, for what he has said. Lord Daresbury said that I was big enough to speak for myself, and Sir Douglas Newton hints to us that I am a sort of bubble; he says I rise to the top, or something of that sort. (Laughter.) And it is the first time that anybody has told me to my face that people would readily pay half a crown to see me. (I would like to meet some of them outside.) But it is very nice to have an old friend like Sir Douglas Newton seconding this proposal. It is said, painful are the wounds of a friend; but I can see that the most faithful friend refrains from wounding; and therefore I am more grateful than anything to him for not disclosing more about me than he has.

During the last two or three days, at various agricultural dinners, I have heard quite a flood of oratory—no, I do not think flood is quite the right term—a fountain, because it was clear and sparkling, and had no mud in it. It all concerns, perhaps, a little bit of the political side of agriculture. Well, thank God, we have got nothing to do with politics here. But one of the speeches which was made at the end by a certain gentleman, who I suppose will be alluded as to a captain of industry, struck me as being very amazing. He told us that he likened agriculture to railways in this country, quite oblivious of the fact, apparently, that the railways are a sheltered industry, and agriculture, both literally and metaphorically, is very unsheltered. (Hear, hear.) Then he added this: that the railways had not only directors but also general managers, who were paid anything up to £10,000 a year apparently, and why did not agriculture have the same? (Laughter.)

Now here we are. I can see, by simply looking round me, several gentlemen, at least half a dozen, whose advice would be worth £10,000 a year to any Minister of Agriculture. (Laughter.) But we give it all absolutely free: our work at the Royal Society is done as a real pleasure. (Hear, hear.) And I think that is true of every member of the Council and every Steward and Assistant Steward under Lord Daresbury; and I know that will continue under my friend Mr. Roland Burke. (Hear, hear.) I hope that this year, when I have been so kindly placed in office by yourselves, that you will do two things to try and help the Royal Show at Warwick. The first is, as Lord Harewood has said, will you try to get as many more members as possible? I know it is difficult, but if each of you in this room would undertake to get five more members between now and January 1st we should have a very nice list to elect in February. The second thing is, will you try and help in every way in your power our friends at Warwick to advertise the Show there? I do not think our people, judging from the experience at Leicester, realise how much there is to see at the Royal Show, and I feel we must do some advertising ourselves and talk about it a bit more so as to attract people not only from

Warwickshire, but from the surrounding towns and counties. I hope very much that you will do this, and I hope myself that we will have a very successful Show there.

I shall rely very much on the advice and sympathy of Lord Daresbury, of Mr. Roland Burke, Mr. Turner, and the capable staff and the Council, and I thank you very much indeed for the great honour you have done me this afternoon. (Cheers.)

Election of Trustees.

The CHAIRMAN: My lords and gentlemen, the next item on the agenda is the Election of Trustees. The names of the present trustees who are recommended under Bye-law 141 by the Council for re-election are printed in List A on the Agenda paper, and I will ask you to signify in the usual manner whether it is your wish that those twelve gentlemen be elected Trustees of the Society, to hold office until the next ensuing Annual General Meeting.

The Trustees, whose names are as follows, were duly elected:—

H.R.H. the Prince of Wales, K.G., York House, S.W.
H.R.H. the Duke of York, K.G., 145 Piccadilly, W.
H.R.H. the Duke of Gloucester, K.G., Buckingham Palace, S.W.
Charles Adeane, C.B., Babraham Hall, Cambridge.
The Duke of Bedford, K.G., Woburn Abbey, Bedfordshire.
Lord Cornwallis, C.B.E., Linton Park, Maidstone, Kent.
Percy Crutchley, Sunninghill Lodge, Ascot, Berkshire.
Lord Daresbury, C.V.O., Walton Hall, Warrington.
The Duke of Devonshire, K.G., Chatsworth, Bakewell.
Lord Harlech, C.B., Brogyntyn, Oswestry.
The Hon. Cecil T. Parker, The Grove, Corsham, Wiltshire.
Lieut-Col. E. W. Stanyforth, C.B., Kirk Hammerton Hall, York.

Election of Vice-Presidents.

The CHAIRMAN: The next item is the election of Vice-Presidents. I will also ask you whether it is your pleasure that the present Vice-Presidents whose names are printed in List B, shall be re-elected, to hold office until the next Annual General Meeting.

The Vice-Presidents were duly elected as below:—

The Rev. C. H. Brocklebank, Westwood Park, West Bergholt, Essex.
The Earl of Derby, K.G., Knowsley, Prescot, Lancs.
Lord Desborough, K.G., Taplow Court, Bucks.
R. M. Greaves, Wern, Portmadoc, North Wales.
The Earl of Harewood, K.G., Chesterfield House, Mayfair, W.
William Harrison, Albion Ironworks, Leigh, Lancs.
Sir Arthur G. Hazlerigg, Bart., Noseley Hall, Leicester.
Lord Mildmay of Flete, Flete, Ermington, S.O., Devon.
The Duke of Portland, K.G., Welbeck Abbey, Worksop.
The Earl of Powis, Powis Castle, Welshpool, Mont.
Viscount Tredegar, C.B.E., Tredegar Park, Newport, Mon.
The Earl of Yarborough, Brocklesby Park, Habrough, Lincolnshire.

Election of Accountants and Auditors.

The CHAIRMAN: I will call upon Captain Bertram Rolfe to move this resolution.

Captain ROLFE: My Lord Chairman, not to waste any time, I beg to move that Messrs. Price, Waterhouse and Co. be elected as Accountants and Auditors of the Society's accounts for the ensuing year.

Mr. F. L. GOOCH: Lord Harewood, my lords, ladies and gentlemen, I have great pleasure in seconding the proposal.

The CHAIRMAN: You have heard the motion proposed and seconded: "That Messrs. Price, Waterhouse and Co. be elected as Accountants and Auditors."

The motion was put to the meeting and carried.

Election of Ordinary Members of Council.

The Chairman: Under the bye-laws the requisite measures have been taken by the Council to fill the vacancies in Group C. As Chairman I have to formally report to the Annual General Meeting the names and addresses of the members of the Council who have been elected by the various divisions in order that the meeting may, in the words of the bye-law, take cognisance of their election. I perform this duty by placing before you list C on pages 3 and 4 of the agenda paper, in which the names of the newly elected members are specially marked.

Cumberland: Joseph Harris, Brackenburgh Tower, Penrith.
Westmorland: Jacob Wakefield, Sedgwick House, Kendal.
Yorks (East Riding): T. L. Wickham-Boynton, Burton Agnes Hall, Driffield.
North Wales: Major W. Marshall Dugdale, D.S.O., Llwyn, Llanfyllin, Mont.
Lincoln (two representatives): John Evens, Burton, near Lincoln; Eustace Abel Smith, Longhills, Lincoln.
Huntingdon: Sir Douglas Newton, K.B.E., M.P., Croxton Park, St. Neots.
Cambridge: S. Owen Webb, Streetly Hall, West Wickham.
Oxford: Robert Hobbs, Kelmscott, Lechlade.
Kent (two representatives: Thomas Neame, The Offices, Macknade, Faversham; J. Egerton Quested, The Firs, Cheriton, Folkestone.
Warwick: Capt. R. Oliver-Bellasis, Shilton House, Coventry.
Gloucester: Major C. C. Hansford, The Orchard, Thornbury, Bristol.
Glamorgan: Hubert D. Alexander, The Croft, Sully, near Cardiff.
Somerset: Lord Strachie, Sutton Croft, Pensford.
Berkshire: Henry A. Benyon, Ufton Court, near Reading.
Sussex (two representatives): Lieut.-Col. Sir Merrik R. Burrell, Bart., C.B.E.. Floodgates, West Grinstead; Col. Sir George L. Courthope, Bart., M.C., M.P., Whiligh.
Ireland: Edward Bohane, C.B.E., Simmons Court House, Donnybrook, Co. Dublin.

Suggestions by Governors or Members for Consideration of the Council.

The Chairman: Has any Governor or member any suggestion to offer that may be referred to the Council for their consideration?

Mr. L. C. Tipper: My lord, ladies and gentlemen, there is one matter I should like to refer to. I have brought it before this meeting on a previous occasion, but I have not seen any reference at all to it at the meetings of the Council. Perhaps I have overlooked it; but I pointed out that there was a Society or organization in existence, an agricultural exhibitors' organisation, and one of the main things that brought it into existence was the fact that they were anxious that some of our county shows might be amalgamated and that some of our shows might be held for a shorter duration. It was hoped that we might get the assistance of the parent organisation, the Royal Agricultural Society. I am simply going to ask to-day that your Council will kindly give that matter consideration.

There is one other point, and that is that when the Empire Farmers' Party were in New Zealand the Farmers' Union there convened a Conference to which they invited those members to be present, and during the proceedings a resolution was carried—I may say I suggested this some few years back in South Africa—a resolution was carried that there should be periodical Conferences of the agriculturists of the Empire, to consider among themselves as to the best means by which they could in friendly intercourse trade without injuring each other. A preliminary Committee has been formed by the British National Union, and I am hoping that the Royal Agricultural Society will co-operate in that movement. The show will be held at Warwick, and I understand that there is to be a visit from some Empire farmers which will coincide with the Show at Warwick, and perhaps the Royal Agricultural Society may be able to take some steps to co-operate. If at the close of this meeting your Council approve of it, there is a preliminary meeting of the Committee to-morrow of the British Union and I am sure they will be very glad to see one of your representatives there.

The CHAIRMAN: Both your suggestions, sir, will be put before the Council, and shall receive very careful consideration.

Presentation to Lord Daresbury.

The CHAIRMAN: My lords and gentlemen, it is now my very pleasant duty to make a presentation to Lord Daresbury on behalf of all those who are interested in the Royal Agricultural Society, whether as members of the Royal Agricultural Society, members of the Council, as exhibitors or as officials connected with the Show itself. In doing so, I feel that no words of mine can adequately express the feelings of those who have subscribed to this presentation. (Hear, hear.) Lord Daresbury took up the position of Honorary Director 25 years ago. He found the Society in a condition which could not be considered exactly financially flourishing, and he has left it, at any rate financially sound. (Cheers.) I should like to offer him my very special congratulations, as you all will, that the last three years of his holding office as Honorary Director have all shown a profit at the Royal Show. (Hear, hear.) It is a fine finale to his quarter of a century's work on behalf of that Show.

I cannot make this presentation without bringing in the name of Lady Daresbury. (Hear, hear.) Nothing but her own express wish would have prevented the Society from adding a memento to her personally to those which are being given to Lord Daresbury. We thank her most heartily for all the assistance which she has given him in her entertainments, and by her presence at all the Royal Shows—(Hear, hear)—which has added so greatly to the social success, as well as so much other work which she has done, which has added to the real success of the Society's Show. (Cheers.)

As to Lord Daresbury himself, I am quite convinced that he will, to the end of his life, always maintain a deep interest in the affairs of the Society. (Hear, hear.) But we cannot any longer expect from him the strenuous hard work which he has given to the Society's affairs during the past 25 years; and we do offer him the most sincere thanks for all that he has done; and the presentation which we now make is not a tithe of all that the Society owe to his efforts. (Hear, hear.)

May I, Lord Daresbury, on behalf of the subscribers, who, as I say, represent all connected with the Royal Show, present to you that gold service of plate, which I hope you will consider as some small token of the debt which the Society owe to you. (Cheers.)

Lord DARESBURY: Lord Harewood, my lords, ladies and gentlemen: I find it very difficult to find words to express my thanks to you for this wonderful present, and also for the many kind things that have been said about me. It would be impossible to have accomplished the work of the Royal Agricultural Society, if I had not had the real co-operation of the Council, the Stewards, the Staff, the Breed Societies and the Exhibitors, and last, but not least, my old friend and agent, Mr. Bainbridge. It is not the work of one but the combined work of many that has brought the "Royal" to the efficient state in which you have it to-day. (Hear, hear.) I think that the shows will go on and will prosper. I wish Mr. Burke the very best of luck, and I am looking forward to future shows of the Society, where, though I may not have so much to do, I shall still be able to do useful work for it. (Hear, hear.)

You know I am a man of very few words, but those words are heartfelt, and I thank you very much indeed for this very handsome present.

Thanks to Chairman.

Lord CORNWALLIS: My lords, ladies and gentlemen, it is my very special privilege to ask this meeting to accord its very best thanks to Lord Harewood for his presence in the chair to-day. (Hear, hear.) The success of his Presidency of a year ago is still very fresh in our minds, and we rejoice to think that his interest in the welfare of the Society shows no abatement, as is evidenced by his presence here to-day. (Hear, hear.) He has had an unusual task for those who occupy the chair on these occasions, but one that was, I am sure, extremely congenial to him.

We thank him for the graceful way in which, on our behalf, he has made the presentation to Lord Daresbury, and for the delightful way in which he has interpreted our feelings towards our Honorary Director. (Hear, hear.) I am quite sure that Lord Harewood desires no thanks, but we desire to assure him how very deeply we appreciate his presence here to-day and the interest that he shows in our Society. May I, on your behalf, offer him the warmest season's greetings and our hopes that he may be spared for many years to assist in the promotion of the best interests of our great industry of agriculture. (Hear, hear.)

It is my pleasure formally to move: "That the best thanks of this meeting be given to Lord Harewood for his presence in the chair." (Cheers.)

Colonel STANYFORTH: My lords, ladies and gentlemen, I beg to second that.

The motion was put to the meeting and carried unanimously.

The CHAIRMAN: Lord Cornwallis, Colonel Stanyforth and gentlemen, I thank you most heartily for the very kind vote of thanks you have accorded me. I can assure you it is always a pleasure to take part in anything that will assist agriculture. I might add that it is more than a pleasure in my case, because it is part of my bread and butter, just as it is yours. We all have to do it, whether we like it or not, and most of us, I think, really like to be associated with farming and to do anything we can to assist its prosperity.

I have more especially been interesting myself this last year in the affairs of an organisation which, I am afraid, many of you gentlemen do not consider so much of a necessity to agriculture as I do: that is the Royal Veterinary College. (Hear, hear.) I hope very much that many of you will begin to recognise that the existence of the Veterinary College and what it provides for you, the vets, really is an absolute necessity for agriculture. (Hear, hear.) I hope that when you realise that fact you will do all you can to see that the Veterinary College is not closed. (Hear, hear.)

I thank you, gentlemen, very much for the very kind vote of thanks that you have accorded me.

Royal Agricultural Society of England.

AWARDS OF PRIZES AT MANCHESTER, 1930.

ABBREVIATIONS.

I., First Prize. II., Second Prize. III., Third Prize. IV., Fourth Prize. V., Fifth Prize. R.N., Reserve Number. H.C., Highly Commended. C., Commended.

The responsibility for the accuracy of the description or pedigree, and for the eligibility to compete of the animals entered in the following classes, rests solely with the Exhibitors.

Unless otherwise stated, each Prize Animal in the Classes for Horses, Cattle, Goats, Sheep, and Pigs, was "bred by Exhibitor."

HORSES.

Shires.

Class 1.—*Shire Stallions, born in* 1927.

No. in Catalogue.

2 I. (£20, & Champion.[1])—E. W. Webb, Ketchingham Farm, Etchingham, Sussex, for **Kirkland Black Friar** 40320, black, bred by W. H. Wildman, Manor Farm, Borwick, Carnforth; *s.* Carlton Friar Tuck 36384, *d.* 122097 Jess *by* Crossmoor Prince Forrester 33858

Class 2.—*Shire Stallions, born in* 1928.

5 I. (£20, & R. N. for Champion.[1])—W. J. Cumber, The Chestnuts, Theale, Berks, for **Maidencourt Monarch** 40565, bay, bred by Charles Stubbs, Cold Eaton Farm, Parwich, Ashbourne; *s.* Sundridge Nulli Secundus 36952, *d.* 104444 May Flower *by* Bradgate Perfection 33050.

4 II. (£10.)—A. H. Clark & Son, Moulton Eaugate, Spalding, for **Moulton Primate** 40575, brown; *s.* Moulton Harboro' 39559, *d.* 112399 Moulton Abbot's Fancy *by* Moulton Abbot 35902.

8 III. (£5.)—James Forshaw & Sons, Carlton-on-Trent, Newark, for **Prince of Bulcote**, bay, bred by Nottingham Corporation, Stoke Farm, Stoke Bardolph, Nottingham; *s.* Lincoln Royal 38352, *d.* Nottingham Lady *by* Swepstone Draughtsman 37884.

10 R. N.—H. C. Pilkington, Bryntanat, Llansantffraid, Mont., for **Bryntanat.**

Class 3.—*Shire Stallions, born in* 1929.

13 I. (£20.)—G. R. C. Foster, Anstey Hall, Trumpington, Cambridge, for **Bower Winalot**, bay, bred by J. G. Runciman, 15, Downing Street, Cambridge; *s.* Lucky Dog 39250, *d.* 110836 Babingley Sprite *by* Enderby Marksman 33947

15 II. (£10.)—F. W. Griffin, Boro Fen, Peterborough, for **Boro Padre**, bay; *s.* Brockhill Padre 39852, *d.* 111678 Frant Actress *by* Champion's Goalkeeper 30296.

12 III. (£5.)—J. Morris Belcher, Tibberton Manor, Wellington, Salop, for **Tibberton Charmer**, bay, bred by J. Wigley, Welshpool; *s.* Eaton Premier King 39486, *d.* 118922 Shefford Gipsy *by* Ashenden King 31165.

11 R. N.—H. & R. Ainscough, Ltd., Burscough Mills, Burscough, Lancs., for **Burscough Ironwill.**

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[1] Champion Gold Medal, and £5 to the Reserve, given by the Shire Horse Society for the best Stallion. A Prize of £2 is also given by the Shire Horse Society to the Breeder of the Champion Stallion, provided the Breeder is a Member of the Shire Horse Society, and the Dam of the animal is registered in the Shire Horse Stud Book.

Class 4.—*Shire Mares, with their own foals at foot.*

19 **I. (£20, & R. N. for Champion.[1])**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for 121192 **Pendley Rose Marie,** brown, born in 1926 [foal *by* Pendley Harvester 40368], bred by F. W. Flintoff, Worminghall, Thame, Oxon; *s.* Monks Green Friar 35891, *d.* 111318 Cole Duchess *by* Barn King Cole 35374.

20 **II. (£10.)**—The Duke of Devonshire, K.G., Chatsworth, Bakewell, for 120991 **Ledwyche Pearl,** brown, born in 1926 [foal *by* Chatsworth Goalkeeper 40246], bred by Edward Howells, Lower Ledwyche, Ludlow; *s.* Ledwyche Clansman 39242, *d.* 108383 Hay End Nulli *by* Harboro' Nulli Secundus 33231.

18 **III. (£5.)**—Sir Gomer Berry, Bart., for 118173 **Fenny Misty Morn,** black, born in 1924 [foal *by* Cippenham Friar 38110], bred by G. Cotterill, Fenny Compton, Leamington; *s.* Marden Blend 36734, *d.* 103071 Fenny Clansman's Girl *by* Champion's Clansman 29921.

26 **IV. (£4.)**—Wm. Stuart, Sowerby Hall, Garstang, for 117373 **Sowerby Vanity,** grey, born in 1923 [foal *by* Kirkland Statesman 40097]; *s.* Moulton Swell 3rd 35010, *d.* 112959 Sowerby Greta *by* Woodfold Harold of the Forest 32934.

22 **R. N.**—The Duke of Devonshire, K.G., for **Moors Debut.**

Class 5.—*Shire Colt Foals, the produce of Mares entered in Class 4.*[2]

27 **I. (£10.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for bay, born April 25; *s.* Cippenham Friar 38110, *d.* 118173 Fenny Misty Morn *by* Marden Blend 36734.

29 **II. (£5.)**—The Duke of Devonshire, K.G., Chatsworth, Bakewell, for bay, born March 30; *s.* Cippenham Friar 38110, *d.* 118638 Moors Debut *by* Pendley St. Leger 35052.

28 **III. (£3.)**—Sir Gomer Berry, Bart., for brown, born May 7; *s.* Pendley Harvester 40368, *d.* 121192 Pendley Rose Marie *by* Monk's Green Friar 35891.

Class 6.—*Shire Filly Foals, the produce of Mares entered in Class 4.*[2]

31 **I. (£10.)**—The Duke of Devonshire, K.G., Chatsworth, Bakewell, for bay, born April 15; *s.* Chatsworth Goalkeeper 40246, *d.* 120991 Ledwyche Pearl *by* Ledwyche Clansman 39242.

34 **II. (£5.)**—Wm. Stuart, Sowerby Hall, Garstang, for **Easter Morn,** bay, born April 20; *s.* Kirkland Statesman 40097, *d.* 117373 Sowerby Vanity *by* Moulton Swell 3rd 35010.

Class 7.—*Shire Mares, born in or before* 1926, *not having foals at foot.*[2]

36 **I. (£15.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for 121532 **Windrush Tulip,** brown, born in 1926, bred by W. R. Scantlebury, Gt. Barrington, Burford: *s.* Heirloom 3rd 39510, *d.* 101877 Broad Hinton Bonny *by* Bardon Hero 30134.

35 **II. (£10.)**—Sir Gomer Berry, Bart., for 118409 **Kerry Clanish Maid,** bay, born in 1923, bred by Ben Alderson, Glanmiheli, Newtown, Mont.; *s.* Basildon Clansman 36277, *d.* 108657 Kerry Blossom *by* Halstead Blue Blood 27397.

37 **III. (£5.)**—G. R. C. Foster, Anstey Hall, Trumpington, Cambridge, for **Bower Beatrice,** brown, born in 1926, bred by Alfred Jones, 14, Ratton Road, Eastbourne; *s.* Cowage Dalesman 39149, *d.* 110247 Thames Empress *by* Sherenden Champion 36915.

38 **R. N.**—W. & J. Sumner, Shire Bank Farm, Fulwood, Preston, for **Bradgate Fashion.**

Class 8.—*Shire Fillies, born in* 1927.

45 **I. (£20.)**—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for 122206 **Marden Undina,** bay; *s.* Cowage Dalesman 39149, *d.* 89460 **Marden Melody** *by* Champion's Goalkeeper 30296.

47 **II. (£10.)**—Sir Bernard Greenwell, Bart., for 122208 **Marden Unity,** bay; *s.* Cowage Dalesman 39149, *d.* 108957 Marden Monica *by* Champion's Goalkeeper 30296.

41 **III. (£5.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for 121879 **Eccleston Real Fashion,** bay, bred by J. B. Jackson, Lentworth, Bispham Road, Blackpool; *s.* Herontye Buscot 37494, *d.* 97085 Bonny Fashion *by* Lunesdale Kingmaker 23469.

46 **R. N.**—E. W. Webb, Ketchingham Farm, Etchingham, Sussex, for **Bourton White Socks.**
H. C.—43.

Class 9.—*Shire Fillies, born in* 1928.

49 **I. (£20, & Champion.[1])**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for 123133 **Llynclys Lady Loue,** brown, bred by R. W. Richards, Llynclys, Oswestry; *s.* Basildon Clansman 36277, *d.* 108829 Llynclys Queen *by* Blaisdon Draughtsman 32113.

55 **II. (£10.)**—Thomas M. Watson, Whinacre, Park Drive, Blackpool, for 122744 **Albany Queen,** bay, bred by William Webster & Son, Newstead Farm, Stockton-on-Forest; *s.* Darley Wild Wave 38149, *d.* 113420 Albany March Countess *by* March King 34955.

53 **III. (£5.)**—Robert Stuart, Stud Farm, Kirkland, Garstang, for 123102 **Kirkland Royal Lady,** black; *s.* Kirkland Ardavon 39905, *d.* 118417 Kirkland Greta *by* Moulton Swell 3rd 35010.

51 **R. N.**—D. Pryce Jones, Buttington Hall, Welshpool, for **Buttington Wild Rose.**

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[1] Champion Gold Medal, and £5 to the Reserve, given by the Shire Horse Society for the best Mare or Filly. A Prize of £2 is also given by the Shire Horse Society to the Breeder of the Champion Mare or Filly, provided the Breeder is a Member of the Shire Horse Society, and the Dam of the animal is registered in the Shire Horse Stud Book.

[2] Prizes given by the Shire Horse Society.

Class 10.—*Shire Fillies, born in* 1929.

57 **I. (£20.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Marceline**, brown, bred by W. Newhouse, Ancliffe Hall, Slyne, Lancs.; *s.* Darley Wild Wave 38149, *d.* 106673 Ancliffe Winnie *by* Warrior Carlton 31943.

62 **II. (£10.)**—E. W. Webb, Ketchingham Farm, Etchingham, Sussex, for **Bierton Champion's Duchess**, bay, bred by T. J. Roads, Broughton, Aylesbury; *s.* Hedges Champion Surprise 39509, *d.* 120540 Bierton Hill Duchess *by* Hill Manor Champion 39728.

63 **III. (£5.)**—E. W. Webb, for **Etchingham Elegance**, bay, bred by G. H. Hawksworth, Longford, Derby; *s.* Pendley Front Line 39367, *d.* 116175 Carlton Elegance *by* Ashenden King 31165.

56 **R. N.**—R. P. Barratt, Ashlands, Oswestry, for **Ashlands Harebell.**

Class 11.—*Shire Geldings, by registered sires, born in or before* 1927.[1]

67 **I. (£20.)**—Mann, Crossman & Paulin, Ltd., Albion Brewery, Whitechapel Road, London, E.1, for **Norman**, bay, born in 1924, bred by Milton Harris, Little Milton Manor, Great Milton, Oxon; *s.* Horning Counterseal 36651.

70 **II. (£15.)**—J. W. Warburton, Oaklands Farm, Hale Barns, Altrincham, for **Vulcan**, bay, born in 1925, bred by R. T. Owen, Dwygir, Rhosgoch, Anglesey; *s.* Warton Reciprocity 37020.

66 **III. (£10.)**—Mann, Crossman & Paulin, Ltd., for **Nelson**, chestnut, born in 1925, bred by Henry Deakin, Hixon, Stafford; *s.* Bradgate Viscount 38054.

65 **IV. (£5.)**—Peter Davies, Gorsefield, West Timperley, Cheshire, for **Midlands Prince**, bay, born in 1925, bred by J. Jones, Rhydagloies, Forden; *s.* Camlad Conjurer 39434.

64 **V. (£5.)**—R. P. Barratt, Ashlands, Oswestry, for **Rufus**, brown, born in 1924, bred by W. Everall, Shrawardine Castle, Shrewsbury; *s.* Basildon Clansman 36277.

Clydesdales.

Class 12.—*Clydesdale Stallions, born in* 1928.

76 **I. (£20, & R. N. for Champion.[2])**—T. & M. Templeton, Sandyknowe, Kelso, for **Benefaction** 21712, dark brown, bred by Charles S. Elliot, Nisbet Hill, Duns; *s.* Benefactor 20867, *d.* Nisbet Harmony 53539 *by* Dunure Footprint 15203.

71 **II. (£10.)**—David Adams, Auchencraig, Dumbarton, for **Horoscope** 21766, brown, bred by Donald Gillespie, Craigens, Gruinart, Islay; *s.* Dunure Footprint 15203, *d.* Craigens Baroness 45288 *by* Baron of Buchlyvie 11263.

74 **III. (£5.)**—James Kilpatrick, Hawkrigg House, Wigton, for **Hawkrigg Hallmark** 21765, bay, bred by John Carruthers, Seaville, Silloth; *s.* Hawkrigg Insignia 20766, *d.* Seaville Jeanie 57507 *by* Dunure James 13452.

73 **R. N.**—James Kilpatrick, Craigie Mains, Kilmarnock, for **Craigie Coldoch.**

H. C.—77.

Class 13.—*Clydesdale Stallions, born in* 1929.

80 **I. (£20, & Champion.[2])**—James Kilpatrick, Craigie Mains, Kilmarnock, for **Craigie Beau Ideal**, bay, bred by Robert Bryan, Barskrimming Mains, Mauchline; *s.* Craigie McQuaid 20724, *d.* Vera 57001 *by* Dunure Footprint 15203.

83 **II. (£10.)**—T. & M. Templeton, Sandyknowe, Kelso, for **Black Diamond** (Vol. 52, p. 35), black, bred by J. E. Kerr, Harviestoun, Dollar; *s.* Benefactor 20867, *d.* Harviestoun Alma 54631 *by* Dunure Footprint 15203.

79 **III. (£5.)**—Robert Dalziel, Rue, Auldgirth, Dumfries, for **Silver Star**, black; *s.* Ardyne Refiner 19606, *d.* Rue May Queen 57974 *by* Balcairn Footnote 20701.

Class 14.—*Clydesdale Mares, born in or before* 1927.

86 **I. (£20, & Champion.[3])**—Robert Dalziel, Rue, Auldgirth, Dumfries, for **Rue May Queen** 57974, black, born in 1924; *s.* Balcairn Footnote 20701, *d.* Noss Aida 44899 *by* Master David 15943.

84 **II. (£10.)**—G. M. Beck, The Lane, Ravenstonedale, Westmorland, for **Lane Mayflower** (Vol. 50, p. 31), black, born in 1927, bred by the late James Gray, Glenoonah, Kippen; *s.* Benefactor 20867, *d.* Rue Mayflower 55956 *by* Dunure Footprint 15203.

Class 15.—*Clydesdale Fillies, born in* 1928.

88 **I. (£20, & R. N. for Champion.[3])**—G. M. Beck, The Lane, Ravenstonedale, Westmorland, for **Lane Snowflake** (Vol. 52, p. 47), black, bred by H. E. Roberts, Mereside, Bromfield Carlisle; *s.* Benefactor 20867, *d.* Snowflake 48867 *by* Dunure Footprint 15203.

Class 16.—*Clydesdale Geldings, by registered sires, born in or before* 1927.[4]

92 **I. (£20.)**—Messrs. Greig, Housewrigg, Brayton, Carlisle, for **Brayton**, bay, born in 1926, bred by Mrs. Murray, Kirkland, Crossburn; *s.* Demonstrator 20548, *d. by* Revelanta 11876.

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[1] Prizes given by the Shire Horse Society.

[2] Champion Silver Medal given by the Clydesdale Horse Society for the best Stallion.

[3] Champion Silver Medal given by the Clydesdale Horse Society for the best Mare or Filly.

[4] Prizes given by the Clydesdale Horse Society.

91 **II. (£10.)**—Glasgow Corporation Cleansing Dept., 20, Trongate, Glasgow, for **Director**, roan, born in 1924, bred by David Elder, Westfield Farm, Bathgate; *s.* Dunraven 20309, *d.* Maud 54494 *by* Hamlet 17928.

94 **III. (£5.)**—William Kerr, Bell Mount, Penrith, for **Lofty King**, bay, born in 1926, bred by Thomas Wilson, Jaapston, Neilston, Renfrewshire; *s.* Lofty Pride 18423.

95 **R. N.**—John King & Sons, Castle Farm, Newton Mearns, Renfrewshire, for **Premier**.

Suffolks.

Class 17.—*Suffolk Stallions, born in or before* 1926.[1]

96 **I. (£20, & Champion.[2])**—Arthur T. Pratt, Morston Hall, Trimley, Ipswich, for **Darsham Duke** 5878, born in 1926, bred by Capt. R. J. Catchpole, The Hall, Darsham; *s.* Berden Bacchus 5382, *d.* Darsham Duchess 8906 *by* Darsham Sheik 4139.

97 **II. (£10.)**—Mrs. Evelyn Rich, Wretham Hall, Thetford, for **Morston Gold King** 5643, born in 1924, bred by A. T. Pratt, Morston Hall, Trimley, Ipswich; *s.* Morston Gold Guard 4234, *d.* Leda's Queen 7772 *by* Bawdsey Harvester 3076.

Class 18.—*Suffolk Stallions, born in* 1927.

103 **I. (£20, & R. N. for Champion.[2])**—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for **Red Gold of Wratting** 5932, bred by Sir Cuthbert Quilter, Bart., Bawdsey Manor, Woodbridge; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Sappho 11350 *by* Earl Gray 4219.

101 **II. (£10.)**—G. M. T. Pretyman, Orwell Park, Ipswich, for **Beau Boy** 6079; *s.* Tattingstone Beau Esprit 4927, *d.* Orwell Wistful 10269 *by* Morston Gold Guard 4234.

99 **III. (£5.)**—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for **Pyrford Patrick** 5905; *s.* Cressing Crusader 5433, *d.* Sudbourne Areta 11498 *by* Sudbourne Beau Brocade 4235.

Class 19.—*Suffolk Stallions, born in* 1928.

104 **I. (£20.)**—J. A. Berners, Woolverstone Park, Ipswich, for **Tendring Foch** 6044, bred by Capt. R. S. Hall, New Hall, Tendring, Essex; *s.* Sudbourne Foch 4869, *d.* Morston Millicent 8942 *by* Morston Gold Guard 4234.

107 **II. (£10.)**—Miss Zoe Quilter, Bawdsey, Woodbridge, for **Bawdsey Sir Roger** 5970, bred by Sir Cuthbert Quilter, Bart., Bawdsey; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Valeta 11349 *by* Bawdsey Hay 4188.

106 **III. (£5.)**—Arthur T. Pratt, Morston Hall, Trimley, Ipswich, for **Morston Commentator** 6085; *s.* Shotley Counterpart 4903, *d.* Morston Gold Gem 10933 *by* Morston Gold Guard 4234.

108 **R. N.**—Owen H. Smith, Langham, Oakham, for **Ranksborough Imperial.**

Class 20.—*Suffolk Stallions, born in* 1929.

110 **I. (£20.)**—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Riddlesworth Bend Or** 6107; *s.* Shotley Counterpoint 5609, *d.* Riddlesworth Barmaid 12480 *by* Sudbourne Beau Brocade 4235.

114 **II. (£10.)**—Owen H. Smith, Langham, Oakham, for **Euston Valentine** 6080, bred by the Grafton Estate Co., Euston, Suffolk; *s.* Shotley Counterpoint 5609, *d.* Euston Julia 13666 *by* Fornham Rifleman 4796.

112 **III. (£5.)**—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for **Pyrford Punch** 6060; *s.* Cressing Crusader 5433, *d.* Glitter 10006 *by* Morston Gold Guard 4234.

Class 21.—*Suffolk Mares, with their own foals at foot.*

115 **I. (£20, & R. N. for Champion.[3])**—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for **Sudbourne Gillie** 12144, born in 1922 [foal *by* Ashmoor Prime Minister 5826], bred by the Exors. of the late Lord Manton, Sudbourne Hall, Suffolk; *s.* Sudbourne Beau Brocade 4235, *d.* Kenton Ghost 9561 *by* Gipping Conqueror 4000.

119 **II. (£10.)**—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for **Raveningham Doreen** 12357, born in 1923 [foal *by* Ashmoor Prime Minister 5826], bred by E. S. Buck & Son, Sycamore Farm, Raveningham; *s.* Sudbourne Foch 4869, *d* Hasketon Flo 7076 *by* Sproughton Gold King 3347.

118 **III. (£5.)**—Frank Sainsbury, for **Bawdsey Sappho** 11350, born in 1921 [foal *by* Worlingham Red Gold 5506], bred by Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge; *s.* Earl Gray 4219, *d.* Bawdsey Minerva 6449 *by* Bawdsey Harvester 3076.

120 **R. N.**—Frank Sainsbury, for **Wychnor Primrose.**

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[1] Prizes given by the Suffolk Horse Society.

[2] The "Coronation" Perpetual Silver Challenge Cup given by the Suffolk Horse Society for the best Stallion.

[3] Champion Prize of £10 given by the Suffolk Horse Society for the best Mare or Filly.

Class 22.—*Suffolk Colt Foals, the produce of Mares in Class* 21.[1]

123 I. (£10.)—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for foal born Feb. 16 ; *s.* Worlingham Red Gold 5506, *d.* Wychnor Primrose 13102 *by* Bawdsey Wassail 5132.

122 II. (£5.)—Frank Sainsbury, Blunt's Hall, for foal born March 31, bred by E. S. Buck & Son, Sycamore Farm, Raveningham ; *s.* Ashmoor Prime Minister 5826, *d.* Raveningham Doreen 12357 *by* Sudbourne Foch 4869.

121 III. (£3.)—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for foal born April 2 ; *s.* Ashmoor Prime Minister 5826, *d.* Sudbourne Gillie 12144 *by* Sudbourne Beau Brocade 4235.

Class 23.—*Suffolk Filly Foals, the produce of Mares in Class* 21.[1]

125 I. (£10.)—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for foal born Feb. 23 ; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Sappho 11350 *by* Earl Gray 4219.

Class 24.—*Suffolk Mares, born in or before* 1926, *not having a foal at foot.*[1]

130 I. (£15.)—The Right Hon. E. G. Pretyman, Orwell Park, Ipswich, for **Orwell Dame** 13251, born in 1924 ; *s.* Shotley Counterpart 4903, *d.* Orwell Daisy 10892 *by* Morston Gold Guard 4234.

131 II. (£10.)—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for **Thorpe Countess** 13635, born in 1925, bred by H. W. Daking, White Hall, Thorpe-le-Soken ; *s.* Tattingstone Beau Esprit 4927, *d.* White Hall Countess 9942 *by* Morston Gold Guard 4234.

128 III. (£5.)—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Riddlesworth Barmaid** 12480, born in 1923, bred by the Exors. of the late Lord Manton, Sudbourne ; *s.* Sudbourne Beau Brocade 4235, *d.* Sudbourne Armada 8519 by Sudbourne Peter 3955.

126 R. N.—P. A. Bayman, Letheringham Abbey, Woodbridge, for **Wanstead Statuette 2nd.**

Class 25.—*Suffolk Fillies, born in* 1927.

138 I. (£20, & Champion.[2])—Owen H. Smith, Langham, Oakham, for **Vivandiere** 14879, bred by C. S. Wolton, Lavenham, Suffolk ; *s.* Sudbourne Foch 4869, *d.* Lavenham Belle 11304 *by* Sudbourne Bellicose 4617.

134 II. (£10.)—Sir Cuthbert Quilter, Bart , Bawdsey, Woodbridge, for **Bawdsey Seedling** 14806 ; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Hayseed 9496 *by* Bawdsey Hay 4188.

132 III. (£5.)—J. A. Berners, Woolverstone Park, Ipswich, for **Woolverstone May** 14758 ; *s.* Fornham Beatty 4942, *d.* Woolverstone Morn 12503 *by* Woolverstone Arthur 4949.

133 R. N.—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for **Pyrford Phillida.**

H. C.—136.

Class 26.—*Suffolk Fillies, born in* 1928.

143 I. (£20.)—Owen H. Smith, Langham, Oakham, for **Walton Bella** 15048, bred by Herbert Smith, Walton Grange, Felixstowe ; *s.* Shotley Counterpart 4093, *d.* Walton Minnie 12061 *by* War Boy 4672.

142 II. (£10.)—Mrs. Evelyn Rich, Wretham Hall, Thetford, for **Wretham Morella** 15245 ; *s.* Horstead Punchinello 5096, *d.* Cherry 9555 *by* Clarion 3663.

140 III. (£5.)—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Stratton Finale** 15006, bred by the Exors. of the late S. Dawson, Stratton Hall, Ipswich ; *s.* Tattingstone Beau Esprit 4927, *d.* Stratton Winifred 9076 *by* Morston Gold Guard 4234.

139 R. N.—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for **Raveningham Model.**

Class 27.—*Suffolk Fillies, born in* 1929.

145 I. (£20.)—Arthur T. Pratt, Morston Hall, Trimley, Ipswich, for **Morston Counter Peace 2nd** 15710 ; *s.* Shotley Counterpart 4903, *d.* Morston White Cross 8970 *by* Morston Gold Guard 4234.

146 II. (£10.)—Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge, for **Bawdsey Galopede** 15672 ; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Valeta 11349 *by* Bawdsey Hay 4188.

144 III. (£5.)—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for **Raveningham Rose Marie** 15353 ; *s.* Woolverstone Checkmate 4683, *d.* Raveningham Doreen 12357 *by* Sudbourne Foch 4869.

Class 28.—*Suffolk Geldings, by registered sires, born in or before* 1927.[1]

154 I. (£20.)—Wray, Sanderson & Co., Ltd., Hull, for **Pyrford Prince** 5514, born in 1923, bred by the Earl of Iveagh, Pyrford Court, Woking ; *s.* War Boy 4672, *d.* Glitter 10006 *by* Morston Gold Guard 4234.

148 II. (£10.)—J. A. Berners, Woolverstone Park, Ipswich, for **Sharper**, born in 1926 ; *s.* Woolverstone Gold Dust 5530, *d.* Woolverstone Floss 6686 *by* Lord Derby's Neptune 3005.

153 III. (£5.)—Wray, Sanderson & Co., Ltd., for **Briton**, born in 1924, bred by B. S. King, Rushmere, Ipswich ; *s.* Shotley Counterpart 4903, *d.* Duchess 8997.

149 R. N.—Stuart Paul, Kirton Lodge, Ipswich, for **Duke.**

H. C.—151. C.—150, 155.

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[1] Prizes given by the Suffolk Horse Society.

[2] Champion Prize of £10 given by the Suffolk Horse Society for the best Mare or Filly.

Percherons.

Class 29.—*Percheron Stallions, born in or before* 1926.[1]

157 **I. (£20, & Champion.[2])**—Chivers & Sons, Ltd., Histon, Cambridge, for **Censé** B409, grey, born in 1924, bred by Mons. Morice la Bellangerie, Youel'abbe, Ballon, Manse la Sarthe, France : *s.* Truck F 143887, *d.* Indiana F 98604 *by* Ludovic F 47508

160 **II. (£10, & R. N. for Champion.[2])**—Lt.-Col. H. E. Hambro, Coldham Hall, Bury St. Edmunds, for **Carburateur** B 403, grey, born in 1924, bred by Mons. Frecu, Nogent-le-Rotrou, France ; *s.* Souvenons F 136704, *d.* Raguse F 134533 *by* Mousquet F 106990

159 **III. (£5.)**—E. Guy Fenwick, North Luffenham Hall, Stamford, for **Brampton Ingot** B 339, born in 1925, bred by H. R. Overman, Brampton Ash, Market Harborough ; *s.* Hilderstone Watteau B 198, *d.* Brampton Eve B 431 *by* Lagor B 1.

136 **R. N.**—Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for **Knepp Xanthos.**

Class 30.—*Percheron Stallions, born in* 1927.

162 **I. (£20.)**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Drayman 10th** B 411, grey ; *s.* Lagor B 1, *d.* Serverie B 534 *by* Importun F 80576.

163 **II. (£10.)**—Co-operative Wholesale Society, Ltd., Coldham, Wisbech, for **River Quanteleux** B 476, black, bred by A. W. Hardy, Haycroft, Sherborne, Cheltenham, *s.* Quanteleux B 35, *d.* Nora B 125 *by* Lotus A 99183.

165 **III. (£5.)**—James Crawford, Potterells Farm, Hatfield, for **Orton Ocean** B 379, dark grey, bred by J. F. Montagu, Cold Overton Hall, Oakham ; *s.* Hobland Demon B 215, *d.* Oie B 62 *by* Jaddus F 89198.

Class 31.—*Percheron Stallions, born in* 1928.

166 **I. (£20, & Champion.[3])**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Gay Boy** B 456, grey ; *s.* Villabon B 276, *d.* Histon Trip B 279 *by* Oremus B 13.

167 **II. (£10, & R. N. for Champion.[3])**—Sir Henry H. A. Hoare, Bart., Stourhead, Zeals, Wilts, for **Stourhead Lagor** B 424, grey ; *s.* Lagor B 1, *d.* Torsade B 433 *by* Polygone F 125447.

168 **III. (£5.)**—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, for **Riseholm Quaestor 2nd** B 439, grey, bred by C. Wilson, Riseholme, Lincoln ; *s.* Bargaly Chieftain B 16, *d.* Quapucine B121 *by* Misanthrope B 5.

170 **R. N.**—J. Pierpont Morgan, Wall Hall, Watford, for **Histon Grey Lord.**

H. C.—171.

Class 32.—*Percheron Stallions, born in* 1929.

174 **I. (£20.)**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Matchless** B 466, grey ; *s.* Lagor B 1, *d.* Andromaque B 517 *by* Quaduc F 129371.

175 **II. (£10.)**—Major Q. E. Gurney, Bawdeswell Hall, East Dereham, for **Histon Aristocrat** B 464, grey, bred by Chivers & Sons, Ltd., Histon, Cambridge ; *s.* Lagor B 1, *d.* Palette B 180 *by* Latin F 100006.

180 **III. (£5.)**—C. Wilson, Riseholme, Lincoln, for **Riseholm Sinbad** B 477, grey ; *s.* Villabon B 276, *d.* Riseholme Siren B 504 *by* Misanthrope B 5.

179 **R. N.**—J. Pierpont Morgan, Wall Hall, Watford, for **Orton Misanthrope.**

C.—177.

Class 33.—*Percheron Mares, with their own foals at foot.*

181 **I. (£20.)**—Chivers & Sons, Ltd., Histon, Cambridge, for **Brampton Eve** B 431, grey, born in 1921 [foal *by* Hilderstone Watteau B 198], bred by H. R. Overman, Brampton Ash, Market Harborough ; *s.* Lagor B 1, *d.* Irene B 23 *by* Clamart F 64207.

187 **II. (£10.)**—J. Pierpont Morgan, Wall Hall, Watford, for **Baudruche** B 085, very light grey, born in 1923 [foal *by* Hache Viking B 144], bred by L. Guion, Landes, Bellous, Huisne, Orne, France ; *s.* Qroisy F 130280, *d.* Nattiere F 114659 *by* Joyeux F 84874

190 **III. (£5.)**—J. Pierpont Morgan, Wall Hall, Watford, for **Serverie** B 534, grey, born in 1918 [foal *by* Histon Drayman 4th B 340], bred by M. Maillefert, Cruchet, Ventes de Bourse, Mesle-sur-Sarthe, France ; *s.* Importun F 80576, *d.* Mazareenne F 110845 *by* Heainne F 75604.

185 **IV. (£4.)**—Major J. S. Courtauld, M.C., M.P., Burton Park, Petworth, for **Quasquette** B 5, light grey, born in 1916 [foal *by* Burton Yeoman B 308], bred by A. Chapelle, Plessis, Mortagne, France ; *s.* Lagor F 100512, *d.* Rustique F 50571 *by* Duchesnay F 37117.

189 **R. N.**—J. Pierpont Morgan, for **Histon Limoselle 2nd.**

H. C.—183. **C.**—182.

Class 34.—*Percheron Colt or Filly Foals, the produce of Mares in Class* 33.[1]

193 **I. (£10.)**—Chivers & Sons, Ltd., Histon, Cambridge, for black filly, born April 1 ; *s.* Censé B 409, *d.* Rovigno B 256 *by* Mylord B 275.

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[1] Prizes given by the British Percheron Horse Society.

[2] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Stallion.

[3] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Stallion in Classes 31 and 32 born in Great Britain.

200 II. (£5.)—J. Pierpont Morgan, Wall Hall, Watford, for black colt, born March 7, *s* Histon Drayman 4th B 340, *d* Serverie B 531 *by* Importun F 80576.

194 III. (£3.)—Co-operative Wholesale Society, Ltd., Coldham, Wisbech, for grey filly, born March 8; *s.* Censé B 409, *d.* Ucanie B 489 *by* Lutecien F 102720.

192 R. N.—Chivers & Sons, Ltd.

Class 35.—*Percheron Fillies, born in* 1927.

202 I. (£20.)—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Virginia** B 833, grey; *s* Mylord B 275, *d.* Vierge B 590 *by* Quesnel F 129358.

203 II. (£10.)—Chivers & Sons, Ltd., for **Histon Beauty 3rd** B 830, grey; *s.* Lagor B 1, *d.* Palette B 180 *by* Latin F 100016.

204 III. (£5.)—J. Pierpont Morgan, Wall Hall, Watford, for **Histon Andromaque** B 831, grey roan, bred by Chivers & Sons, Ltd., Histon, Cambridge; *s.* Lagor B 1, *d.* Andromaque B 517 *by* Quaduc F 129371.

205 R. N.—J. Pierpont Morgan, for **Histon Lady 6th.**

Class 36.—*Percheron Fillies, born in* 1928.

206 I. (£20, Champion,[1] & Champion.[2])—Chivers & Sons, Ltd, Histon, Cambridge, for **Histon Bonny 2nd** B 879, grey; *s.* Mylord B 275, *d.* Histon Bonny B 373 *by* Lagor B 1

208 II. (£10.)—J. Pierpont Morgan, Wall Hall, Watford, for **Elm Orvale** B 863, grey, bred by the Co-operative Wholesale Society, Ltd., Coldham, Wisbech; *s.* Salammbo B 86, *d.* Utelle B 494 *by* Medisant F 105527.

207 III. (£5.)—Chivers & Sons, Ltd., for **Buscot Favourite** B 894, grey, bred by Lady Violet Henderson, Buscot Park, Faringdon; *s.* Evenlode Benjamin B 261, *d.* Buscot Prejudice B 659 *by* Garon B 39.

Class 37.—*Percheron Fillies, born in* 1929.

210 I. (£20, R. N. for Champion,[1] & R. N. for Champion.[2])—Chivers & Sons, Ltd, Histon, Cambridge, for **Histon Gay Lady** B 932, black; *s.* Carburateur B 403, *d.* Petronne B 176 *by* Japon F 84819.

211 II. (£10.)—J. Pierpont Morgan, Wall Hall, Watford, for **Aldenham Lady Grace** B 935, grey; *s.* Huntley Perseus B 209, *d.* Histon Lady Grey B 721 *by* Villabon B 276.

212 III. (£5.)—J. Pierpont Morgan, for **Radwinter Audrey** B 904, dark grey, bred by J. Francis Taylor, Godfreys Farm, Radwinter, Essex; *s.* Lagor B 1, *d.* Eastern Xanthina B 572 *by* Newport B 20.

209 R. N.—Lt.-Col. F. G. G. Bailey, Lake House, Salisbury, for **Stourhead Tirelire.**

Class 38.—*Percheron Geldings, by registered sires, born in or before* 1927.[3]

216 I. (£20.)—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, for **Shenley Microbe,** grey, born in 1926, bred by Thomas Cook, Hobland House, Great Yarmouth; *s.* Perfection B 46, *d.* Sonorite B 343 *by* Ohio F 119742.

213 II. (£10.)—Co-operative Wholesale Society, Ltd., Coldham, Wisbech, for **Elm Perfection** B 362, grey, born in 1926; *s.* Salammbo B 86, *d.* Alfa B 502 *by* Nyctalope F 113635.

215 III. (£5.)—Robert Chrystal Irving, for **Shenley Atom,** black, born in 1923, bred by C. P. Ackers, Huntley Manor, Gloucester; *s.* Quorail B 41, *d.* Qlarinette B 254 *by* Mirliton F 105710.

214 R. N.—Major J. S. Courtauld, M.C., M.P., Burton Park, Petworth, for **Burton Zealot.**
H. C.—217.

Hunters.

Class 39.—*Hunter Mares, with their own foals at foot.*

224 I. (£20, & Champion.[4])—Thomas and Henry Ward, Pinchinthorpe, Guisborough, Yorks., for 6349 **Nada Ross,** brown, born in 1918 [foal *by* Gleneskaki], bred by James Clarke, Navan, Ireland; *s.* Captain Ross, *d.* Nada the Lily *by* Spook.

221 II. (£10, & R. N. for Champion.[4])—Mrs. Philip Fleming, Grendon Hall, Grendon Underwood, Bucks., for 7288 **Redwing 7th,** bay, born in 1918 [foal *by* Brigand], bred by Lady de la Warr, Wimbledon Common; *s.* Red Hand, *d.* Lady Grey 2nd *by* Red Sahib 75.

218 III. (£5.)—Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for 5739 **Blood Ruby,** brown, born in 1917 [foal *by* St. Tudwal]; *s.* The Best 147, *d.* 3201 Princess Ruby *by* Red Prince 2nd.

220 R. N.—Lord Digby, Minterne, Dorchester, for **Lady Mary 6th.**

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[1] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Mare of Filly.

[2] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Filly in Classes 36 and 37 born in Great Britain.

[3] Prizes given by the British Percheron Horse Society.

[4] Champion Gold Medal given by the Hunters' Improvement and National Light Horse Breeding Society for the best Mare four years old and upwards, which must be either registered in the Hunter Stud Book, or the entry tendered within a month of the Award.

Class 40.—*Hunter Mares (Novice), with their own foals at foot.*

228 **I. (£20.)**—George Dickinson, Cark Mills, Cark-in-Cartmel, for 5725 **Cark Silver Pheasant,** chestnut, born in 1918 [foal *by* Silver Fox C.], s. Silver Grill, *d.* 5357 Cark Columbine *by* Underbred.

231 **II. (£10.)**—E. D. Newman, Scremby Manor, Spilsby, for **Silence,** chestnut, aged [foal *by* Squat].

233 **III. (£5.)**—A. and D. Walker, Woodhouse, Tutbury, Burton-on-Trent, for **Cora,** bay, born in 1921 [foal *by* Farman].

230 **R. N.**—Dr. Edward S. Jackson, M.B.E., Robin Hill, Carnforth, for **Sheila,** brown, born in 1920 [foal *by* Captain Jack].

Class 41.—*Hunter Colt Foals, the produce of Mares in Classes* 39 *and* 40.

235 **I. (£15.)**—Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for bay, born April 24; *s.* St. Tudwal, *d.* 5739 Blood Ruby *by* The Best 147.

237 **II. (£10.)**—Miss R. M. Harrison, O.B.E., Maer Hall, Newcastle, Staffs., for bay, born April 7; *s.* Brigand, *d.* 7039 Filmstar *by* Hunty Gowk.

Class 42.—*Hunter Filly Foals, the produce of Mares in Classes* 39 *and* 40.

243 **I. (£15.)**—Dr. Edward S. Jackson, M.B.E., Robin Hill, Carnforth, for **Bubbles,** bay, born April 23; *s.* Captain Jack, *d.* Sheila.

244 **II. (£10.)**—E. D. Newman, Scremby Manor, Spilsby, for chestnut, born April 15; *s.* Squat, *d.* Silence.

246 **III. (£5.)**—Thomas and Henry Ward, Pinchinthorpe, Guisborough, Yorks, for bay, born May 2; *s.* Gleneskaki, *d.* 6349 Nada Ross *by* Captain Ross.

239 **R. N.**—Lord Digby, Minterne, Dorchester, for bay, born April 30.

Class 43.—*Hunter Fillies, born in* 1927.

249 **I. (£20.)**—Francis Samuelson, Breckenbrough Hall, Thirsk, for **Beth,** chestnut; *s.* Bethlehem, *d.* 4965 Dream *by* Drummer Kelly.

247 **II. (£10.)**—Lt.-Col. Charles Ainsworth, M.P., Holcombe, Lancashire, for **Grass Cutter,** bay, bred by Sir Keith Fraser, Bart., Carlton Curlieu, Leicester, *s.* Bucks Hussar, *d.* Melaina.

248 **III. (£5.)**—Coldbrook Estates, Ltd., Coldbrook, Abergavenny, for 7183 **Garnet,** chestnut, bred by Major J. A. Herbert, Coldbrook; *s.* Clarendon, *d.* Gem *by* St. Adrian.

Class 44.—*Hunter Fillies, born in* 1928.

253 **I. (£20, & Champion.[1])**—Mrs. E. D. Newman, Scremby Manor, Spilsby, for 7197 **Shrubbery,** bay; *s.* Mankato, *d.* Bushey Place *by* St. Denis.

254 **II. (£10.)**—Mrs. Howard Mander, Trysull Manor, Wolverhampton, for 7275 **Rose Mary,** brown, bred by W. B. Brown, Southolme, Slingsby, Yorks.; *s.* Dunholm, *d.* 6570 Proud Mary *by* Proudridge.

250 **III. (£5.)**—Coldbrook Estates, Ltd., Coldbrook, Abergavenny, for 7480 **Golden Marten,** chestnut, bred by J. G. Lynch, Knocklong Stud, Ireland; *s.* Denis d'Or, *d.* Tullyleake *by* Marten.

251 **R. N.**—James John Emerson, Easby Hall, Great Ayton, Yorks, for **Whorlton Lass.**

Class 45.—*Hunter Fillies, born in* 1929.

262 **I. (£20, & R. N. for Champion.[1])**—Walter J. Fryer, C.B.E., Holme Park, Sonning, Berks., for 7252 **Larlong,** chestnut; *s* Longboat, *d.* 5847 Larch *by* Birk Gill.

266 **II. (£10.)**—E. D. Newman, Scremby Manor, Spilsby, for **Mumm,** chestnut; *s.* Mankato, *d.* Silence.

267 **III. (£5.)**—Francis Samuelson, Breckenbrough Hall, Thirsk, for **Express,** bay; *s.* Erehwemos, *d.* 6218 Scotfree.

264 **IV. (£4.)**—John Edward Jones, Treworgan, Ross, Herefordshire, for 7343 **Cardona 2nd,** brown; *s.* Hunty Gowk 186, *d.* 6889 Cardona *by* Cardonald.

259 **R. N.**—Mrs. Drummond of Megginch, Megginch Castle, Errol, Perthshire, for **Tibbit.**

Class 46.—*Hunter Geldings, born in* 1927.

271 **I. (£20.)**—C. B. Chartres, Mindrum, Northumberland, for **Mindrum** (Supp. No. 1077), brown, bred by G. F. Bell, Mindrum; *s.* Gay Lally, *d.* 3916 Amanda *by* King's Beadsman.

278 **II. (£10.)**—Thomas and Henry Ward, Pinchinthorpe, Guisborough, Yorks., for **Irishman,** chestnut, bred by Joseph Walshe, Moy Valley, Co. Meath; *s.* Cylden, *d by* Nouveau Riche.

269 **III. (£5.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Flashlight,** bay brown; *s.* Dunholm, *d.* 6151 Flemish Queen *by* Pericles.

270 **IV. (£4.)**—W. B. Brown, Southolme, Slingsby, Yorks., for **Moorjock** (Supp. No. 1373), brown, bred by E. Foxton, Cropton, Pickering; *s.* Aynsley, *d. by* Jovial.

274 **R. N.**—E. G. E. Griffith, Plasnewydd, Tremant, Denbigh, for **Simple James.**

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[1] Champion Gold Medal given by the Hunters' Improvement and National Light Horse Breeding Society for the best Filly not exceeding three years old, which must be either registered in the Hunter Stud Book, or the entry tendered within a month of the Award.

Class 47.—*Hunter Geldings, born in* 1928.

284 I. (£20.)—John Edward Jones, Treworgan, Ross, Herefordshire, for **Victor** (Supp. No. 1366), bay, bred by Walter Lofthouse, Bishopthorpe, Yorks.; *s.* Hector, *d.* 6547 Vanity *by* Long Tom.

279 II. (£10.)—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Hector**, chestnut; *s.* Attalus, *d.* 6207 Hecuba 2nd *by* Crathorne.

286 III. (£5.)—T. R. V. Renton, Paddock House, Starbeck, Harrogate, for **Sky Pilot**, black, bred by Mr. Poole, Harkness, Yorks.; *s.* Sir Benedict, *d.* Mother Superior *by* Fealsham.

285 IV. (£4.)—Robert Lofthouse, Bishopthorpe, Yorks., for **Loyal**, chestnut, bred by Walter Lofthouse, Bishopthorpe; *s.* Hector, *d.* 6180 Liberty 2nd.

280 R. N.—Sir John W. Buchanan Jardine of Castle Milk, Bart., Castle Milk, Lockerbie, for **Brown Study**.

Class 48.—*Hunter Colts or Geldings, born in* 1929.

290 I. (£20.)—Sir John W. Buchanan Jardine of Castle Milk, Bart., Castle Milk, Lockerbie, for **March Brown** (Supp. No. 1348), dark brown gelding; *s.* Harmonius, *d.* 7190 Brunette 4th.

289 II. (£10.)—W. B. Brown, Southolme, Slingsby, Yorks., for **Worthington**, bay gelding; *s.* Warrington, *d. by* Oxus.

302 III. (£5.)—John Stubbs, Hessle Farm, Wragley, Wakefield, for **Hero**, chestnut gelding, bred by H. Baker, Heslerton, Yorks; *s.* Hector, *d. by* Fealsham.

294 IV. (£4.)—Mrs. Philip Fleming, Grendon Hall, Grendon Underwood, Bucks., for **Willie**, bay colt; *s.* Political, *d.* 7288 Redwing 7th *by* Red Hand.

299 V. (£3.)—Geoff Kenyon, Armscote House, Stratford-on-Avon, for **Shoeblack**, black gelding; *s.* Ardavon, *d.* Beauty Darling *by* Butterscotch.

298 R. N.—E. G. E. Griffith, Plasnewydd, Trefnant, Denbigh, for **King Arthur**.

Special Produce Prizes of £3 each given by the R.A.S.E., and Second Prizes of £1 *each by the Hunters' Improvement and National Light Horse Breeding Society, for the two best groups of three animals in Classes* 43 *to* 48, *by the same Thoroughbred or Registered Hunter Sire. A Gold Medal was given by the H.I. & N.L.H.B.S. to the owner of the sire of the winning group, and a Silver Medal to the owner of the sire of the second group.*

Sired by Hector.

284 **Victor**, bay gelding, exhibited by J. E. Jones.
285 **Loyal**, chestnut gelding, exhibited by Robert Lofthouse.
302 **Hero**, chestnut gelding, exhibited by John Stubbs.

Sired by Harmonious.

280 **Brown Study**, bay gelding, exhibited by Sir John W. Buchanan Jardine of Castle Milk, Bart.
282 **Good Egg**, bay gelding, exhibited by Mrs. Drummond of Megginch.
290 **March Brown**, brown gelding, exhibited by Sir John W. Buchanan Jardine of Castle Milk, Bart.

Polo and Riding Ponies.

Class 49.—*Polo and Riding Pony Stallions, born in or before* 1927, *not exceeding* 15 *hands.*

308 I. (£20, & Champion.[1])—Herbert Bright, The Cove, Silverdale, Carnforth, for **Silverdale Cheerio** 1320, bay, born in 1921; *s.* Cherry Tint 761, *d.* 4168 Silvery 2nd *by* Right For'ard 368.

310 II. (£10, & R. N. for Champion.[1])—Capt. W. H. France-Hayhurst, Bostock Hall, Middlewich, for **Silverdale Loyalty** 1148, dark roan, born in 1923, bred by Herbert Bright, Silverdale, Carnforth; *s.* Prince Friarstown (Supp. 1917), *d.* 4168 Silvery 2nd *by* Right For'ard 368.

314 III. (£5.)—Sir Ian Walker, Bart., Osmaston Manor, Derby, for **Tabarin** 1682, bay, born in 1922, bred by Madame P. de Prelle, de la Nieppe, Belgium; *s.* Sir Toby (G.S.B.), *d.* Tamise (Approved Mare Register, p. 245) *by* Tallon (G.S.B.).

309 R. N.—Miss B. G. Cory-Wright, Norcott Hill, Berkhamsted, for **Gold Eagle**.
H. C.—312.

Class 50.—*Polo and Riding Pony Colts, Fillies or Geldings, born in* 1929.

320 I. (£20, & R. N. for Champion.[2])—Tresham Gilbey, Whitehall, Bishop's Stortford, for **Mayflower 5th** (Young Stock Register, p. 65), liver chestnut filly; *s.* Bridgewater 7085, *d.* Prairie Flower (Approved Mare Register, p. 236).

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[1] Champion Gold Medal given by the National Pony Society for the best Stallion or Colt.
[2] Champion Silver Medal given by the National Pony Society for the best Filly.

318 II. (£10.)—MISS B. G. CORY-WRIGHT, Norcott Hill, Berkhamsted, for **Chutney** (Young Stock Register, 1929), chestnut colt; *s.* Gold Eagle (Young Stock Register, p. 36), *d.* Spice (Approved Mare Register, p. 159).

322 III. (£5.)—CAPT. THE HON. C. K. GREENWAY, Stanbridge Earls, Romsey, Hants, for **Malally** (Supp. 1929), bay colt; *s.* Malice 1731, *d.* Janet 6th (A.M.R., p. 195) *by* Gay Lally.

324 IV. (£4.)—SIR IAN WALKER, BART., Osmaston Manor, Derby, for **Destiny 2nd** (Supp. 1929), black filly; *s.* Thruster 1123, *d.* Virtue 3rd (Approved Mare Register, p. 283) *by* Royston Cave.

319 R. N.—CAPT. W. H FRANCE-HAYHURST, Bostock Hall, Middlewich, for **Sheriff.**
H. C.—317. C.—321.

Class 51.—*Polo and Riding Pony Colts, Fillies or Geldings, born in* 1928.

332 I. (£20, Champion,[1] & Champion.)[2]—CAPT. THE HON. C. K. GREENWAY, Stanbridge Earls, Romsey, Hants, for **Malanet** (Supp. 1928), bay filly; *s.* Malice 1371, *d.* Jane 6th (A.M.R., p. 195) *by* Gay Lally.

335 II. (£10.)—LT.-COL. SIR A. G. WEIGALL, K.C.M.G., Petwood, Woodhall Spa, for **Shy Maid** (Supp. 1928), chestnut filly, bred by Tresham Gilbey, Whitehall, Bishop's Stortford; *s.* Bridgewater 7085, *d.* 3992 Waiting Maid *by* Arthur D. 593.

327 III. (£5.)—HERBERT BRIGHT, The Cove, Silverdale, Carnforth, for **Silverdale Pamela** (Supp. 1928), chestnut filly; *s.* Silverdale Cheerio 1320, *d.* Parnassia (Approved Mare Register, p. 85) *by* Count Schomberg.

329 IV. (£4.)—LORD DIGBY, Minterne, Dorchester, for **Friarsgown** (Supp. 1928), chestnut filly; *s.* Friarsgate 1325, *d.* Night Gown (Approved Mare Register, p. 269).

328 R. N.—LORD DIGBY, for **Firefly 3rd.**
H. C.—331. C.—334.

Class 52.—*Polo and Riding Pony Fillies or Geldings, born in* 1927.

341 I. (£20.)—LADY HUNLOKE, Cowbridge, Malmesbury, for **Wingerworth Tatters** (Supp. 1928), chestnut gelding; *s.* Ragged Robin, *d.* 5737 Syllabub *by* Barbed Fence.

340 II. (£10.)—MRS. JANET GORDON, How Caple Cross, Hereford, for **Paul** (Young Stock Register, p. 23), bay gelding; *s.* Brest, *d.* Patience (Approved Mare Register, p. 233).

337 III. (£5.)—HERBERT BRIGHT, The Cove, Silverdale, Carnforth, for **Silverdale Merrythought** (Supp. 1927), chestnut filly; *s.* Silverdale Cheerio 1320, *d.* 3151 Cherry *by* Fort Myers.

339 R. N.—MRS. M. M. FITZGERALD, Marsden Manor, Cirencester, for **Black Lead.**
H. C.—336. C.—342.

Class 53.—*Polo and Riding Pony Mares, with their own foals at foot, not exceeding* 15 *hands.*

346 I. (£20, & R. N. for Champion.[3])—MRS. DAVIES-COOKE, Gwysaney, Mold, for **Calla** (Supp. 1926), dark chestnut, born in 1926 [foal *by* Friar 1381]; *s.* The Marne 1075, *d.* 3322 Calico *by* Don Patricio 592.

344 II. (£10.)—HERBERT BRIGHT, The Cove, Silverdale, Carnforth, for 4168 **Silvery 2nd**, brown, born in 1914 [foal *by* Tabarin 1682], bred by the late Sir John Barker, Bishop's Stortford; *s.* Right For'ard 368, *d.* 1631 Silver Queen *by* Sandiway 121.

348 III. (£5.)—MRS. DAVIES-COOKE, for **Silver 4th** (Approved Mare Register, p. 260), grey, born in 1916 [foal *by* Friar 1381], bred by Mr. Mitchell, St. Dennis, Cornwall; *s.* Irish Linen, *d.* Cornish Queen *by* Golden Petrel.

350 IV. (£4, & Champion.[3])—CAPT. W. H. FRANCE-HAYHURST, Bostock Hall, Middlewich, for 4169 **Lady Brilliant**, chestnut, born in 1914 [foal *by* Tancremont (Approved Register, p. 9)], bred by the Rev. W. C. Gosling, Woolley Vicarage, Wakefield; *s.* Field-Marshal 512, *d.* Rose Diamond (Supp. 1914) *by* Rosewater 37.

352 R. N.—THE DOWAGER LADY PENRHYN, Wicken Park, Bletchley, for **Tea Rose 2nd.**
H. C.—343.

Welsh Mountain Ponies.

Class 54.—*Welsh Mountain Pony Stallions, born in or before* 1927, *not exceeding* 12 *hands.*

353 I. (£15.)—JOHN JONES & SON, Dinarth Hall Pony Stud, Colwyn Bay, for **Faraam Mercury** 1313, grey, born in 1924, bred by F. Ffitch Mason, The Faraam, Killay; *s.* Bwlch Quicksilver 748, *d.* 4188 Clumber Janet 3rd.

355 II. (£10.)—LORD SWANSEA, D.S.O., M.V.O., Caer Beris, Builth Wells, Breconshire, for **Caer Beris King Cole** 940, grey, born in 1917, bred by Mrs. Greene, Grove, Craven Arms; *s.* Grove King Cole 2nd 565, *d.* 4431 Grove Sprite 2nd.

354 III. (£5.)—THE MISSES MAY & SUMMERS, Manor House, Rodney Stoke, Cheddar, Somerset, for **Lydbury Rocket** 1456, grey, born in 1927; *s.* Grove Elfin 729, *d.* 8309 Llwyn Venus *by* Kilhendre Celtic Silverlight 953.

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[1] Champion Silver Medal given by the National Pony Society for the best Filly.

[2] Champion Gold Medal given by the National Pony Society for the best Mare or Filly.

[3] Bronze Medal given by the National Pony Society for the best Foal in Class 53 entered in the Supplement to the National Pony Stud Book.

Class 55.—*Welsh Mountain Pony Mares, with their own foals at foot, not exceeding 12 hands.*

358 **I. (£15.)**—THE MISSES MAY & SUMMERS, Manor House, Rodney Stoke, Cheddar, Somerset, for 8568 **Towy Vale Delight**, brown, born in 1920 [foal *by* Grove Elfin 729], bred by the late W. S. Miller, Forest Lodge, Brecon ; *s.* Forest Chief 944, *d.* Forest Brave Lula.

356 **II. (£10.)**—MISS M. BRODRICK, Coed Coch, Abergele, for 8527 **Coed Coch Eirlys**, grey, born in 1919 [foal *by* Llwyn Satan], bred by John Norton, Brunslow, Lydbury North ; *s* Stretton Sweep 246, *d.* 3149 Brunslow.

357 **III. (£5.)**—JOHN JONES & SON, Dinarth Hall Pony Stud, Colwyn Bay, for 7285 **Castlemai Lady**, bay, born in 1915 [foal *by* Master Shot 13529], bred by Miss Lort, Castlemai, Carnarvon ; *s.* Revolt 493, *d.* 2640 Cassie 2nd *by* Sir Harry.

Riding Classes.[1]

HUNTERS.

Class 58.—*Hunter Mares or Geldings, born in* 1926.

372 **I. (£15.)**—CAPT. V. H. HOLT, Lingmoor, Kirbymoorside, York, for **Fascist**, chestnut gelding, bred by G. and V. McNiel, Normanby, near Whitby ; *s.* Flying Scot, *d. by* Bellagio.

363 **II. (£10.)**—SIR JOHN W. BUCHANAN JARDINE OF CASTLE MILK, BART., Castle Milk, Lockerbie, for 6991 **Sepia**, bay mare ; *s.* Harmonius, *d.* 7190 Brunette 4th.

362 **III. (£5.)**—SIR JOHN W. BUCHANAN JARDINE OF CASTLE MILK, BART., for **Glenholme** (Supp. No. 966), brown gelding ; *s.* Harmonius, *d.* Carnew *by* Trafalgar.

370 **IV. (£3.)**—THE COUNTESS OF HARRINGTON, Elvaston Castle, Derby, for **Mona 5th**, dark bay mare, bred by H. Crossley, Priory Flatte, Derby ; *s.* Santair, *d.* Lady Lucas.

379 **R. N.**—COL. H. HEYWOOD LONSDALE, D.S.O., Shavington, Market Drayton, for **Tom Fool.**

Class 59.—*Mares or Geldings* (*Novice*), *born in or before* 1926, *up to from* 12 *to* 14 *stones.*

384 **I. (£15.)**—JOHN DRAGE, Chapel Brampton, Northampton, for **Diana**, bay mare, born in 1924.

380 **II. (£10.)**—MISS E. V. P. HODSON, Abnalls, Lichfield, for **Martello** (Supp. No. 1151), dark bay gelding, born in 1925 ; *s.* The Tower 148, *d.* 5346 Arethusa *by* Akbar.

386 **III. (£5.)**—THE HON. MRS. GILBERT GREENALL, Gaddesby, Leicester, for **Tourin**, brown gelding, born in 1924.

362 **IV. (£3.)**—SIR JOHN W. BUCHANAN JARDINE OF CASTLE MILK, BART., for **Glenholme.** (See Class 58.)

361 **R. N.**—MAJOR JACK BAINBRIDGE, The Manor House, Laceby, Grimsby, for **John Peel 2nd.**

Class 60.—*Hunter Mares or Geldings* (*Novice*), *born in or before* 1926, *up to more than* 14 *stones.*

406 **I. (£15, & R. N. for Champion.[2]**—HENRY HOLTBY, Middledale, Kilham, Driffield, for **Hecland**, chestnut gelding, born in 1925 ; *s.* Hector, *d. by* Leyland.

385 **II. (£10.)**—JOHN DRAGE, Chapel Brampton, Northampton, for **Tramore**, bay gelding, born in 1925.

391 **III. (£5.)**—MAJOR L. B. HOLLIDAY, Kirkburton, Yorks, for **Sandy Flash**, bay gelding, born in 1923.

407 **IV. (£3.)**—CAPT. I. B. JARMAY, Bulkeley Hall, Malpas, for **Blue Train**, bay roan gelding, born in 1925.

399 **R. N.**—W. J. STRATTON, Hunting and Polo Stables, Knutsford, for **Golden Rod.**

Class 61.—*Hunter Mares or Geldings, born in or before* 1925, *up to not more than* 14 *stones. Suitable to carry a lady and to be ridden by a lady side-saddle.*

384 **I. (£15.)**—JOHN DRAGE, for **Diana.** (See Class 59.)

386 **II. (£10.)**—THE HON. MRS. GILBERT GREENALL, for **Tourin.** (See Class 59.)

374 **III. (£5.)**—JOHN EDWARD JONES, Treworgan, Ross, Herefordshire, for **Astonishment**, chestnut gelding, born in 1925, bred by W. Jones, Trwstllewelyn, Montgomery ; *s.* Great Surprise, *d.* Navette *by* Le Blizon.

417 **IV. (£3.)**—MISS DIANA RUSSELL-ALLEN, Davenham Hall, Northwich, for **Swallow**, bay gelding, born in 1925, bred by Major A. S. Cooper, Killenmore Castle, Dundrinn, Ireland ; *s.* Sir Rowland.

Class 62.—*Hunter Mares or Geldings, born in or before* 1926, *up to from* 12 *to* 13·7 *stones.*

384 **I. (£20.)**—JOHN DRAGE, for **Diana.** (See Class 59.)

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[1] Prizes given by the Manchester Local Committee.

[2] Gold Challenge Cup given by gentlemen interested in Hunters for the best Mare or Gelding.

414 II. (£15.)—Mrs. E. M. Vaughan, Blackladies, Brewood, Stafford, for **Golden Friar** (Supp. No. 1021), chestnut gelding, born in 1923, bred by W. Singer, Turf Club, London; *s.* Friar Marcus, *d.* Mots d'Or *by* Chaucer.
389 III. (£10.)—Miss E. V. P. Hodson, for **Martello**. (See Class 59.)
386 IV. (£5.)—The Hon. Mrs. Gilbert Greenall, for **Tourin**. (See Class 59.)
362 V. (£3.)—Sir John W. Buchanan Jardine of Castle Milk, Bart., for **Glenholme**. (See Class 58.)
371 R. N.—The Countess of Harrington, Elvaston Castle, Derby, for **Bureaucrat**.

Class 63.—*Hunter Mares or Geldings, born in or before* 1926, *up to more than* 13·7 *and not more than* 15 *stones.*

406 I. (£20, & R. N. for Champion.[1])—Henry Holtby, for **Hecland**. (See Class 60.)
416 II. (£15.)—Miss Diana Russell-Allen, Davenham Hall, Northwich, for **Trespasser** (Supp. No. 1095), bay gelding, born in 1924, bred by Mr. Ryan, Naas, Co. Kildare; *s.* Jabberwock, *d. by* Grebe.
415 III. (£10.)—W. B. Brown, Southolme, Slingsby, Yorks, for **Dunthorn**, bay gelding, born in 1924, bred by T. Marton, Salton Manor, Sinnington, York; *s.* Dunholm, *d. by* Crathorne.
383 IV. (£5.)—John Drage, Chapel Brampton, Northampton, for **Jock**, brown gelding, born in 1925.
399 V. (£3.)—W. J. Stratton, Hunting and Polo Stables, Knutsford, for **Golden Rod**, chestnut gelding, born in 1925.
393 R. N.—Major L. B. Holliday, Kirkburton, Yorks, for **Quickstep**.

Class 64.—*Hunter Mares or Geldings, born in or before* 1926, *up to more than* 15 *stones.*

427 I. (£20, & Champion.[1])—Major J. F. Harrison, King's Walden Bury, Hitchin, Herts., for **Doneshall**, bay gelding, born in 1924.
385 II. (£15.)—John Drage, for **Tramore**. (See Class 60.)
391 III. (£10.)—Major L. B. Holliday, for **Sandy Flash**. (See Class 60.)
365 IV. (£5.)—C. B. Charters, Mindrum, Northumberland, for **Mischief** (Supp. No. 1078), brown gelding, bred by G. F. Bell, Mindrum; *s.* Hector, *d.* 3916 Amanda *by* King's Beadsman.

HACKS.

Class 65.—*Hack Mares or Geldings, not exceeding* 15 *hands.*

432 I. (£15.)—Lt.-Col. Sir A. G. Weigall, K.C.M.G., Petwood, Woodhall Spa, for **Radiant**, bay gelding, born in 1926, bred by John Walker, Knightwick Manor, Worcester; *s.* Regent, *d.* Amnity *by* Amphion.
431 II. (£10.)—Miss Olive Ricks, Hatch Farm House, Addlestone, Surrey, for **Golden Image**, chestnut mare, born in 1923.
429 III. (£5.)—Mrs. Philip Fleming, Grendon Hall, Grendon Underwood, Bucks, for **Pegity**, grey mare, born in 1925.
402 IV. (£3.)—Miss Doris Lee, Hilston House, Bowdon, Cheshire, for **Silver Book**, grey mare, born in 1924.

Class 66.—*Hack Mares or Geldings, over* 15 *hands.*

436 I. (£15, & Champion.[2]—J. Kenneth Stevenson, The Chase, Upper Welland, Malvern, for **Mignonette**, bay mare, born in 1923.
440 II. (£10, & R. N. for Champion.[2])—Major R. M. Stewart Richardson, Idover House, Dauntsey, Chippenham, for **Battle Royal**, chestnut gelding, born in 1924.
434 III. (£5.)—Lt.-Col. Sir A. G. Weigall, K.C.M.G., Petwood, Woodhall Spa, for **White Owl**, grey mare, born in 1924.
397 IV. (£3.)—Mrs. Evelyn Rich, Wretham Hall, Thetford, for **The Orphan**, brown gelding, born in 1925, bred by Miss C. A. Smith, Downe Court, Kent; *s.* Rey Bridge.
H. C.—441. C.—438.

Class 67.—*Hack Mares or Geldings, suitable to carry a lady and to be ridden by a lady side-saddle.*

436 I. (£15.)—J. Kenneth Stevenson, for **Mignonette**. (See Class 66.)
440 II. (£10.)—Major R. M. Stewart Richardson, for **Battle Royal**. (See Class 66.)
432 III. (£5.)—Lt.-Col. Sir A. G. Weigall, K.C.M.G., for **Radiant**. (See Class 65.)
397 IV. (£3.)—Mrs. Evelyn Rich, for **The Orphan**. (See Class 66.)

CHILDREN'S PONIES.

Class 68.—*Pony Mares or Geldings, not exceeding* 13 *hands, to be ridden by a child born in or after* 1920.

450 I. (£10.)—Master Maurice A. Tatlow, Brome Hall, Lapworth, Birmingham, for **Grey Bird**, grey mare, born in 1926.

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[1] Gold Challenge Cup given by gentlemen interested in Hunters for the best Mare or Gelding.
[2] Silver Challenge Cup given by a Member of the R.A.S.E. for the best Hack.

446 II. (£5.)—Charles E. Edwards, Mount Seifton, Craven Arms, Salop, for **Dawn,** brown mare, born in 1924.

448 III. (£3.)—Master Philip F. Parker, Belmore, Hasland, Chesterfield, for **Silk,** brown mare, born in 1924

447 R. N.—Master John Farrington, Wythenshawe, White Knowle, Buxton, for **Heather.**

Class 69.—*Pony Mares or Geldings, over* 13 *and not exceeding* 14 *hands, to be ridden by a child born in or after* 1917.

461 I. (£10.)—Miss Olive Ricks, Hatch Farm House, Addlestone, Surrey, for **Crators Beam,** chestnut gelding, born in 1926.

456 II. (£5.)—Miss Doris Lee, Hilston House, Bowdon, Cheshire, for **Venus,** bay mare, born in 1923.

454 III. (£3.)—Charles E. Edwards, Mount Seifton, Craven Arms, Salop, for **Tom,** bay gelding, born in 1925.

458 R. N.—Mrs. Campbell Muir, Broomybank Farm, Malpas, for **Toffee.**

Class 70.—*Pony Mares or Geldings, over* 14 *and not exceeding* 15 *hands, to be ridden by a child born in or after* 1914.

465 I. (£10.)—Andrew Massarella, Belmont, Bentley, Doncaster, for **Climax 2nd,** chestnut gelding, born in 1924.

431 II. (£5.)—Miss Olive Ricks, for **Golden Image.** (See Class 65.)

443 III. (£3.)—A. W. Agar, Sleights Farm, Nafferton, Driffield, for **Scarlet May,** chestnut mare, born in 1925; *s.* Scarlet Rambler.

463 R. N.—Charles E. Edwards, Mount Seifton, Craven Arms, Salop, for **Taffy.**

Driving Classes.[1]

SINGLE HARNESS.

Class 71.—*Harness Mares or Geldings (Novice), not exceeding* 14 *hands.*

469 I. (£15.)—Robert Black, The Grove, Osbaldwick, York, for 26842 **Babiola,** bay mare, born in 1926, bred by the Dowager A. Drory de Perez, Vorest, Holland; *s.* Nork Magnet 14670, *d.* 25320 Sudanah *by* Galanthus 12627.

488 II. (£10.)—William S. Miller, Balmanno Castle, Bridge of Earn, for **Regal Presence** G 609, bay gelding, born in 1924, bred by Enoch Glen, Kaim Park, Bathgate; *s.* Melbourne Afire 13942, *d.* 23129 Glenavon Princess Caprice *by* Fireboy 7440.

485 III. (£5.)—John & William Geller, 249, High Road, Leytonstone, London, E., for **Mascot Fusee** G 685, bay gelding, born in 1925, bred by J. E. Kerr, Harviestoun, Dollar, Scotland; *s.* Harviestoun Mascot 12858, *d.* 25991 Harviestoun Rubra *by* Fusee 12626.

487 R. N.—Mrs. Horace Hilton, Plas Isa, Corwen, for **Corwen Onyx.**
H. C.—496. C.—477, 481.

Class 72.—*Harness Mares or Geldings (Novice), over* 14 *and not exceeding* 15 *hands.*

470 I. (£15, & Champion.[2])—Robert Black, The Grove, Osbaldwick, York, for 26176 **Lady Landor,** dark brown mare, born in 1923, bred by W. M. Killick, Nantwich; *s.* Buckley Courage 13771, *d.* 24541 La La Melbourne *by* Royal Success 8995.

502 II. (£10.)—T. W. Boan, Laburnum Villa, Huyton Quarry, near Liverpool, for **Mersey Torchlight,** dark bay gelding, born in 1925; *s.* Buckley Courage 13771, *d.* 23329 Saucy Queen *by* Marlboro' 11136.

504 III. (£5.)—James Prescott, Heaton Park, Manchester, for 26461 **Habrough Saucy Sue,** bay mare, born in 1925, bred by J. E. Rushworth, Eskdale, Bargate, Grimsby; *s.* Buckley Courage 13771, *d.* 23487 Cairns Belle *by* Torchfire 9472.

505 R. N.—Robert Rutter, King's Arms Hotel, Kendal, for **Sonny Jim.**
H. C.—483.

Class 73.—*Harness Mares or Geldings (Novice), over* 15 *hands.*

471 I. (£15, & R. N. for Champion.[2])—Robert Black, The Grove, Osbaldwick, York, for 26628 **Wensleydale Eclipse,** chestnut mare, born in 1926, bred by J. W. G. Smith, Aysgarth, S.O., Yorks; *s.* Angram Majesty 11967, *d.* 23375 Towthorpe Allette *by* Polonius 4931.

484 II. (£10.)—A. R. Fish, Holme Mead, Hutton, near Preston, for **Penwortham Perfect Motion** G 689, bay gelding, born in 1925, bred by the late Philip Smith, Ashton-on-Mersey; *s.* Haddon King 14056, *d.* 19347 Melbourne Princess *by* Merry Wildfire 9342.

508 III. (£5.)—C. H. Mumby, 205, Boulevard, Hull, for **Boulevard Squire** G 585, black chestnut gelding, born in 1923; *s.* Carleton Quality 12595, *d.* 25673 Boulevard Princess *by* Roans Polonius 11807.

498 R. N.—Frank C. Minoprio, Avening Court, Avening, Glos, for **Amberley Blue Boy.**

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[1] Prizes given by the Manchester Local Committee.

[2] The "Glasgow" Silver Challenge Cup given by a Member of the R.A.S.E. for the best animal in the Novice Classes.

Class 74.—*Harness Mares or Geldings, not exceeding* 13·2 *hands.*

489 **I. (£15, & R. N. for Champion.[1])**—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, 26108 **Eastertide**, brown mare, born in 1923, bred by J. E. Tweedale, Rochdale, *s* Southworth Swell 11219, *d.* 22616 Hollin Glowworm *by* Torchfire 9472.

491 **II. (£10.)**—WILLIAM S. MILLER, for **Jix** G 625, bay gelding, born in 1924 bred by Mrs. Paget Steavenson, Hurworth-on-Tees; *s.* Southworth Swell 11219, *d.* 22219 Talke Duchess *by* Talke Fire King 9032.

485 **III. (£5.)**—JOHN & WILLIAM GELLER, for **Mascot Fusee.** (See Class 71.)

511 **R. N.**—J. E. TWEEDALE, High Birch, Marland, Rochdale, for **My Dear.**
H.C.—501. **C.**—479.

Class 75.—*Harness Mares or Geldings, over* 13·2 *and not exceeding* 14 *hands.*

492 **I. (£15.)**—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **Fuse Junior** G 556, bay gelding, born in 1924; *s.* Braishfield Fuse 13567, *d.* 25150 Buckley Poppy *by* Little Briton 11813.

473 **II. (£10.)**—R. H. MCCOLL, 9, Sherbrooke Avenue, Pollokshields, Glasgow, for 26557 **Braishfield Sonnet**, chestnut mare, born in 1922, bred by Mrs. A. C. King, Braishfield Manor, Romsey, Hants; *s.* Royal Success 8995, *d.* 21085 Tissington Carol *by* Tissington Gideon 9042.

487 **III. (£5.)**—MRS. HORACE HILTON, Plas Isa, Corwen, for 26710 **Corwen Onyx**, black mare, born in 1926; *s.* Holyport Ruby 10263, *d.* 25404 Kenwicks Ogee *by* Atwick Junior 6962.

Class 76.—*Harness Mares or Geldings, over* 14 *and not exceeding* 15 *hands.*

474 **I. (£15, & Champion.[1])**—FRANK W. BUTTLE, Kirkholme, Deepdale Avenue, Scarborough for 26140 **Glenavon Debutante**, bay mare, born in 1923, bred by Enoch Glen, Kaim Park, Bathgate; *s* Ophelius 13344, *d.* 23982 Heathwood Caprice *by* Westfield Polonius 9968.

475 **II. (£10.)**—FRANK W. BUTTLE, for **Shalimar** G 679, chestnut gelding, born in 1923, bred by Dr. Bowie, Colnbrook, Bucks; *s.* Mathias A1 10751, *d.* 23105 Flower Princess, *by* King's Proctor 11102.

510 **III. (£5.)**—J. H. WHITTALL, Heswall, Adlington, Macclesfield, for **Glenavon Regal** G 163, bay gelding, bred by David Blanche, Heathfield, Greenock; *s.* Mathias 6473, *d.* 23982 Heathwood Caprice *by* Westfield Polonius 9968.

502 **R. N.**—T. W. BOAN, for **Mersey Torchlight.** (See Class 72.)
H. C.—504. **C.**—505.

Class 77.—*Harness Mares or Geldings, over* 15 *and not exceeding* 15·2 *hands.*

494 **I. (£15.)**—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **Knight of the Thistle** G 567, black gelding, born in 1924, bred by Enoch Glen, Kaim Park, Bathgate; *s.* Ophelius 13344, *d.* 22171 Pallas Athene *by* Mathias 6473.

471 **II. (£10.)**—ROBERT BLACK, for **Wensleydale Eclipse.** (See Class 73.)

508 **III. (£5.)**—C. H. MUMBY, for **Boulevard Squire.** (See Class 73.)

Class 78.—*Harness Mares or Geldings, over* 15·2 *hands.*

476 **I. (£15.)**—MRS. HARTLEY BATT, The Wood Edge, Shiplake-on-Thames, Oxon, for **Field Adjutant** G. 496, bay gelding, born in 1921, bred by Miss R. B. Babcock, Lingfield, Surrey; *s.* Danum Grand Fashion 13588, *d.* 21876 Blanca *by* Leopard 9783.

512 **II. (£10.)**—MRS. CHARLES P. RIMMER, Vale Royal Abbey, Hartford, Cheshire, for **Hartford Quality** G 714, chestnut gelding, born in 1919, bred by the late C. F. Kenyon, Steele, Whitchurch, Salop; *s.* Kirkburn Leader 12875, *d.* 19088 Flash Dorothy *by* Forest Star 7445.

484 **III. (£5.)**—A. R. FISH, for **Penwortham Perfect Motion.** (See Class 73.)

509 **R. N.**—J. H. WHITTALL, Heswall, Adlington, Macclesfield, for **Penarth Coquette.**
H. C.—499.

DOUBLE HARNESS.

Class 79.—*Harness Mares or Geldings.*

488 and 492 **I. (£15.)**—WILLIAM S. MILLER, for **Regal Presence** (see Class 71), and **Fuse Junior** (see Class 75).

498 and 499 **II. (£10.)**—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for **Amberley Blue Boy** G 742, dark chestnut gelding, born in 1926, bred by S. Allen, Moor Court, Amberley, Glos.; *s.* Carleton Quality 12595, *d.* 25112 Albion Blue Bell *by* Mathias 6743; and 20323 **Nottingham Princess**, dark chestnut mare, born in 1924, bred by Wm. Mackenzie, 104, Rayleigh Street, Nottingham; *s.* Carleton Quality 12595, *d.* 22773 Romping Lady *by* Antonius 10559.

TANDEMS.

Class 80.—*Harness Mares or Geldings.*

498 and 499 **I. (£15.)**—FRANK C. MINOPRIO, for **Amberley Blue Boy** and **Nottingham Princess.** (See Class 79.)

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[1] The "Balmanno" Silver Challenge Cup given by a Member of the R.A.S.E. for the best animal in Classes 74 to 78.

CATTLE.

Shorthorns.

Class 81.—*Shorthorn Bulls, born in or before* 1927.

520 I. (£15.)—J. & H. P. Webster, Abbey Farm, Yedingham, West Heslerton, Malton, for **Bainesse Rosebud King 4th** 195849, red and little white, born Nov. 16, 1924, bred by J. M. Strickland, Bainesse, Catterick; *s.* Brandsby's Lord Ramsden 7th 169452, *d.* 30592 Bainesse Rosebud 2nd *by* Cudham Max 155167.

513 II. (£10.)—H.R.H. The Prince of Wales, K.G., Grove Farm, Lenton, Nottingham, for **Aldie Knight** 204372, red roan, born April 11, 1925, bred by Finlay MacGillivray, Aldie, Tain, Scotland; *s.* Calrossie White Prince 179192, *d.* Rosewood 92nd *by* Balcairn Diamond 160948.

516 III. (£5.)—Joseph Harris, Brackenburgh Tower, Penrith, for **Oxford Duke of Calthwaite 100th** 201491, roan, born Dec. 18, 1924; *s.* Pride of Belmont 192977, *d.* 13722 Oxford Duchess of Calthwaite 97th *by* Gainford Grand Duke 125637.

514 R. N.—L. V. Garland, Greenbank, The Towans, Hayle, Cornwall, for **Climsland Clipper King.**

C.—518, 519.

Class 82.—*Shorthorn Bulls, born on or between January* 1 *and March* 31, 1928.[1]

521 I. (£15.)—A. J. Marshall, Bridgebank, Stranraer, for **Cruggleton Patrician** 229491, roan, born Feb. 21; *s.* Balcairn Baronet 153566, *d.* Princess Christina *by* Broadhooks Diamond 124530.

521, 560, 569 **Special I. (£15.[2])**—A. J. Marshall, for **Cruggleton Patrician, Cruggleton Colonel** and **Cruggleton Searchlight.**

Class 83.—*Shorthorn Bulls, born on or between April* 1 *and December* 31, 1928.

523 I. (£15, **R. N. for Champion,[3] R. N. for Champion,[4] & R. N. for Champion.[5]**)—Alexander & Addie, Newbiggin, Cambus, Stirling, for **Cambus Ingot** 228757, dark roan, born April 30; *s.* Balmuchy Baronet 213217, *d.* Butterfly 30th *by* Cupbearer of Collynie 114960.

526 II. (£10.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Basildon Aristocrat** 328159, red roan, born June 12, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms; *s.* Basildon Fascinator 204968, *d.* 46146 Rosewood 12th *by* Saltoun Aristocrat 175886.

531 III. (£5.)—A. J. Marshall, Bridgebank, Stranraer, for **Cruggleton Watchman** 229536, red roan, born April 5; *s.* Beaufort Royal Prince 196232, *d.* 76882 Veiled Wimple *by* Bridgebank Curtis 187722.

530 IV. (£4.)—A. J. Marshall, for **Cruggleton Nathan** 229479, dark roan, born August 28; *s.* Bridgebank Rosedene 213883, *d.* 64806 Ouida Nonpareil *by* Balcairn Baronet 153566.

533 R. N.—Alfred Wheeler, Chippinghurst, Cuddesdon, Oxford, for **Golden Edwin.**

H. C.—527. C.—532.

523, 563, 564 **Special II. (£10.[2])**—Alexander & Addie, for **Cambus Ingot, Cambus Keystone** and **Cambus King's Jester.**

530, 531, 543 **R. N. for Specials.[2]**—A. J. Marshall, for **Cruggleton Nathan, Cruggleton Watchman** and **Cruggleton Conroy.**

Class 84.—*Shorthorn Bulls, born on or between January* 1 *and March* 31, 1929.[6]

536 I. (£15, **Champion,[3] Champion,[4] & Champion.[5]**)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Basildon Rosicrucian**, red, born March 11, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms; *s.* Millhills Rosicrucian 224992, *d.* 100109 Basildon Lady Ramsden 3rd *by* Pendley Archer 201598.

544 II. (£10.)—R. S. McWilliam, Garguston, Muir of Ord, Ross-shire, for **Garguston Golden Conquest**, dark roan, born Jan. 15; *s.* Keystone 216738, *d.* 39606 Golden Seal *by* Naemoor Cock Robin 157946.

546 III. (£5.)—Joseph Shepherd, National Provincial and Union Bank Buildings, Hamilton Square, Birkenhead, for **Balcairn Outram**, red roan, born March 18, bred by F. L. Wallace, Balcairn, Oldmeldrum; *s.* Viscount Robin 227141, *d.* 103194 Balcairn Opal *by* Calrossie Ramsden Monarch 188134.

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[1] Prize given by the Shorthorn Society.

[2] Special Prizes of £15 First Prize and £10 Second Prize given by the Shorthorn Society for the best groups of three animals bred by Exhibitor.

[3] Champion Prize of £20 given by the Shorthorn Society for the best Bull. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Bull.

[4] Silver Challenge Cup given by the Argentine Shorthorn Breeders' Association for the best Bull.

[5] The "Brothers Colling" Memorial Perpetual Challenge Cup given through the Durham Agricultural Committee for the best Shorthorn.

[6] Prizes, except Fourth, given by the Shorthorn Society.

542 **IV.** (£4.)—A. J Marshall, Bridgebank, Stranraer, for **Balnakyle Benefactor,** dark roan, born Jan. 3, bred by James Cameron, Balnakyle, Munlochy, Ross-shire; *s.* Doune Buccaneer 215148, *d.* 71578 Balnakyle Augusta 18th *by* Woodend Lieutenant 195320.

543 **R. N.**—A. J. Marshall, for **Cruggleton Conroy.**

H.C.—534, 537. **C.**—535, 545.

Class 85.—*Shorthorn Bulls, born on or between April* 1 *and June* 30, 1929.

560 **I.** (£15.)—A. J. Marshall, Bridgebank, Stranraer, for **Cruggleton Colonel,** red. born May 1; *s.* Bridgebank Pomfac 187761, *d.* 52274 Clipper Princess *by* Moniack Guardsman 174201.

551 **II.** (£10.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Cluny Rosewood Rover,** dark roan, born April 17, bred by Lady Cathcart, Cluny Castle, Aberdeenshire; *s.* Red Robin 210743, *d.* Cluny Rosewood (Vol. 64, p. 793) *by* President of the Mint 109670.

555 **III.** (£5.)—William Garne, Aldsworth, Cheltenham, for **Crowthorn Guardsman,** dark roan, born May 31, bred by R. W. Jorgensen, Berry Farm, South Cerney, Circencester; *s.* Millhills Authority 201021, *d.* 84043 Rushcourt Golden Drop 2nd *by* Balcairn Wanderer 160966.

557 **IV.** (£4.)—H. & F. B. Hirsch, Low Hall, Dacre, via Harrogate, for **Dacre Libertine,** dark roan, born April 23; *s.* Rothiebrisbane Bulwark 202379, *d.* 86506 Dacre Clipper Maiden 3rd *by* Cluny Primrose Star 188587.

549 **V.** (£3.)—Alexander & Addie, Newbiggin, Cambus, Stirling, for **Cambus King Bruce,** roan, born April 5; *s.* Sanquhar Sorcerer 226312, *d.* 70063 Cambus Clipper 5th *by* Calrossie Challenger 196992.

554 **R. N.**—L. V. Garland, Greenbank, The Towans, Hayle, for **Towan Nonpareil King.**

C.—558.

Class 86.—*Shorthorn Bulls, born on or between July* 1 *and December* 31, 1929.[1]

564 **I.** (£15.)—Alexander & Addie, Newbiggin, Cambus, Stirling, for **Cambus King's Jester,** red, born Sept. 14; *s.* Collynie Red King 214704, *d.* 99560 Dunsley Clipper 2nd *by* Millhills Authority 201021.

569 **II.** (£10.)—A. J. Marshall, Bridgebank, Stranraer, for **Cruggleton Searchlight,** red roan, born Aug. 19; *s.* Lutwyche Grafter 209357, *d.* 99687 Secret Stella *by* Bridgebank Paymaster 154308.

563 **III.** (£5.)—Alexander & Addie, for **Cambus Keystone,** white, born Oct. 3; *s* Collynie Royal Leader 188656, *d.* Lavender Colleen (Vol. 65, p. 1218) *by* Red Viscount 138529.

566 **R. N.**—William Garne, Aldsworth, Cheltenham, for **Aldsworth Regal Prince.**

H. C.—568.

Class 87.—*Shorthorn Cow, in-milk, born in or before* 1926.

570 **I.** (£15.)—Major Clive Behrens, Swinton Grange, Malton, for 82559 **Swinton Maid Ramsden 13th,** red, born Aug. 16, 1926, calved Feb. 18, 1930; *s.* Swinton Regent 185567, *d.* 10259 Swinton Maid Ramsden 4th *by* Engineer 120145.

575 **II.** (£10.)—A. L. Jessopp, Lexham Hall, King's Lynn, for 84476 **Latton Missie 36th,** red, born July 20, 1926, calved Jan. 11, 1930, bred by Capt Sydney Dennis, Down Ampney House, Cricklade; *s.* Latton Fame 191356, *d.* Latton Missie 14th *by* Fairlawne Goldsmith 125460.

576 **III.** (£5.)—William Woof, Clawthorpe Hall, Burton, Carnforth, for 81748 **Fragrant Rosebud,** dark roan, born Jan. 6, 1925, calved June 2, 1930; *s.* Balcairn Blackcock 186886, *d.* 32349 Ruby Rosebud *by* Linksfield Masterpiece 157240.

Class 88.—*Shorthorn Heifers, in-milk, born in* 1927.

578 **I.** (£15.)—Miss Nancy Fieldhouse, Shipton Manor, Andoversford, Cheltenham, for 101225 **Cotehay Augusta 5th,** roan, born March 6, calved Oct. 25, 1929, bred by Col Fairfax Rhodes, Brockhampton Park, Andoversford; *s.* Farmhill Ideal 189630, *d* Sherborne Augusta *by* Edgcote Promotion 111682.

579 **II.** (£10.)—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for 97225 **Marden Nonpareil,** dark roan, born Jan. 9, calved Feb. 22, 1930; *s.* Collynie Viceroy 188660, *d.* 39581 Cudham Nonpareil 4th *by* Cudham Dane 162578.

C.—580.

Class 89.—*Shorthorn Heifers, born in* 1928.

584 **I.** (£15, & Champion.[2])—Miss A. S. Brocklebank, O.B.E., Wing Grange, Oakham, for 105326 **Wing Broadhooks,** roan, born May 17; *s.* Haselor Clipper Star 216188, *d.* 91607 Haselor Broadhook 4th *by* Rothiebrisbane Bulwark 202379.

588 **II.** (£10.)—J. R. Upson, Rush Court, Wallingford, for 114207 **Collynie Royal Princess 3rd,** roan, born Jan. 15, bred by J. Duthie Webster, Tarves, Aberdeenshire; *s.* Quetta 218391, *d.* 81070 Collynie Princess 45th *by* Collynie Royal Leader 188656.

589 **III.** (£5.)—Alfred Wheeler, Chippinghurst, Cuddesdon, Oxford, for 114287 **Chippinghurst Golden Bud,** roan, born Jan. 24; *s.* Basildon Royal 2nd 187225, *d.* 34890 Billington Beauty 2nd *by* Collynie King Lavender 148038.

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[1] Prizes given by the Shorthorn Society.

[2] Champion Prize of £20, given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Cow or Heifer.

582 IV. (£4.)—MAJOR CLIVE BEHRENS, Swinton Grange, Malton, for 104836 **Swinton Rosewood 2nd**, roan, born Aug. 12 ; *s.* Swinton Regent 185567, *d* 27399 Rosie Rosewood *by* Gainford Prince Royal 142527.

585 R. N.—SIR BERNARD GREENWELL, BART., Marden Park, Woldingham, Surrey, for **Marden Clipper 7th.** H. C.—586, 590.

Class 90.—*Shorthorn Heifers, born on or between January* 1 *and March* 31, 1929.

593 I. (£15.)—SIR GOMER BERRY, BART , Pendley Stock Farms, Tring, for **Collynie Augusta Belle**, roan, born March 8, bred by J. Duthie Webster, Tarves, Aberdeenshire ; *s.* Balcairn Beaver 195853, *d.* 39555 Cudham Augusta 9th *by* Cluny Proud Orangeman 154878.

598 II. (£10.)—SIR GEORGE VERNON PROCTOR WILLS, BART., Langford Court Farm, Langford, Bristol, for **Rickford Rosewood 2nd**, roan, born Jan. 23 ; *s.* Cudham Prospect 206506, *d.* 45219 Rosewood 108th *by* Golden Champion 156084.

594 III. (£5.)—SIR GOMER BERRY, BART., for **Collynie Violet Bloom**, roan, born March 13, bred by J. Duthie Webster, Tarves, Aberdeenshire ; *s.* Naemoor Kestrel 225146, *d.* 92511 Violet Royal *by* Calrossie Regent 161916.

Class 91.—*Shorthorn Heifers, born on or between April* 1 *and December* 31, 1929.

601 I. (£15, & R. N. for Champion.[1])—JAMES R. BURR, Mains of Schivas, Ellon, Aberdeenshire, for **Schivas Butterfly**, roan, born April 25 ; *s.* Collynie Barnone 222200, *d.* 69914 Butterfly Duchess *by* Lynegar Butternut 182829.

602 II. (£10.)—ARTHUR GREEN, Highfield, Denton, Ilkley, Yorks, for **Denton Crystal**, roan, born June 24 ; *s.* Staff Officer 226629, *d.* 49295 Denton Broadhooks *by* Collynie Golden Key 170455.

607 III. (£5.)—H. C. PILKINGTON, Bryntanat, Llansantffraid, Mont., for **Tanatside Chrissy**, red, born May 18 ; *s.* Haselor Clipper Comet 223644, *d.* 100888 Tanatside Charlotte *by* Chippinghurst Guardsman 188404.

608 IV. (£4.)—FRED SHAW, Brookfield House, Ack Lane, Broomhall, Cheshire, for **Gainford Queen Bess 3rd**, dark red roan, born May 30, bred by J. & R Harrison, Gainford Hall, Gainford, Co. Durham ; *s.* Gainford Barrister 215719, *d.* 97513 Gainford Queen Bess *by* Hindley Aspirant 199541.

599 R. N.—MAJOR CLIVE BEHRENS, Swinton Grange, Malton, for **Swinton Broadhooks Queen.** H. C.—606, 609. C.—605.

Herefords.

Class 92.—*Hereford Bulls, born on or before August* 31, 1927.

610 I. (£15.)—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Cardiff, for **St. Fagans Pandarus** 49803, born Jan. 26, 1927 ; *s.* Priory Norseman 46340, *d.* Pansy of Pitsford 2nd *by* Prince of Pitsford 41490.

611 II. (£10.)—WILLIAM SPEAKMAN, Ivingtonbury, Leominster, for **Gainford** 47089, born Jan. 23, 1926, bred by W. H D. Davies, Pigeon House, Weston Beggard, Hereford ; *s.* Dinam Morion 44766, *d.* Fairlike *by* Sapper 35591.

Class 93.—*Hereford Bulls, born on or between September* 1, 1927, *and August* 31, 1928.

612 I. (£15, Champion,[2] & Champion.[3])—PERCY E. BRADSTOCK, Free Town, Tarrington, Herefordshire, for **Free Town Admiral** 49233, born Oct. 3, 1927 ; *s.* Crossways Saphlute 44732, *d.* Heather *by* Time Test 26529.

616 II. (£10, & R. N. for Champion.[2])—W. T. MORRIS, Yatton Farm, Kingsland, Herefordshire, for **Condover Brigadier** 49116, born Sept. 27, 1927, bred by J. C. Brookfield, Condover Grange, Shrewsbury ; *s.* Priory Resolute 41505, *d.* Eyton Sirma 4th *by* Glynwood Invincible 39250.

615 III. (£5.)—C. H. MORRIS, Weston Court, Pembridge, for **Gobion Artist** 49282, born Dec. 3, 1927, bred by W. G. Buchanan, Manor House, Abergavenny ; *s.* Lancer of Pitsford 39426, *d.* Frolic *by* Leen Vistula 31664.

614 R. N.—CAPT. R. T. HINCKES, Mansel Court, Hereford, for **Mansel Beaustone.**

Class 94.—*Hereford Bulls, born on or between September* 1 *and November* 30, 1928.[4]

624 I. (£15, & R. N. for Champion.[5])—ERNEST STEVENS, Chapel Farm, Elmley Castle, Pershore, for **Pershore Layman** 50927, born Sept. 12 ; *s.* Rose Showman 39935, *d.* Ladybird 5th *by* Eaton Columbus 36620.

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[1] Champion Prize of £20 given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Cow or Heifer.

[2] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Senior Bull.

[3] Perpetual Silver Challenge Trophy given through the Hereford Herd Book Society for the best Bull.

[4] Prizes, except Fourth, given by the Hereford Herd Book Society.

[5] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Junior Bull.

621 **II. (£10.)**—F. J. Newman, Wickton Court, Leominster, for **Wickton Oliver** 51296, born Oct. 20; *s.* Crossways Emeralute 44726, *d.* Oyster Girl 47th *by* Patchwork 34099.

619 **III. (£5.)**—Viscountess Hereford, Hampton Court, Leominster, for **Hampton Court Sir Vincent** 50561, born Oct. 20; *s.* Free Town Vincent 44880, *d.* Lonely Lass *by* War Loan 33736.

620 **IV. (£4.)**—C. H. Morris, Weston Court, Pembridge, for **Weston Vigorous** 51274, born Sept. 3; *s.* Hilarious 44969, *d.* Weston Vigil *by* Weston Gamester 41784.

618 **R.N.**—Capt. R. T. Hinckes, Mansel Court, Hereford, for **Burton Man-o'-Ross.**

Class 95.—*Hereford Bulls, born on or between December* 1, 1928, *and February* 28, 1929.

631 **I. (£15.)**—Henry Moore, Junr., Shucknall Court, Hereford, for **Woodlands Curlyman** 51327, born Jan. 16, 1929, bred by E. T. Crook, Woodlands Hall, Bridgnorth; *s.* Suspender 47649, *d.* Curly Lassie *by* Clarionet 33507.

632 **II. (£10.)**—R. S. de Q. Quincey, The Vern, Bodenham, Hereford, for **Vern Generous** 51249, born Jan. 16, 1929; *s.* Lancer of Pitsford 39426, *d.* Oyster Maid *by* Emblem 40894.

628 **III. (£5.)**—Mrs. Brian Bibby, Hardwicke Grange, Shrewsbury, for **Clive Success 11th,** born Jan. 27, 1929, bred by the late Capt. F. B. F. Bibby, Hardwicke Grange; *s.* Freeman 39177, *d.* Clive Succour 2nd (Vol. 57, p. 168) *by* Shucknall Prince 33124.

627 **R. N.**—His Majesty The King, The Royal Farms, Windsor, for **Windsor Rodney 2nd.**

Class 96.—*Hereford Bulls, born on or after March* 1, 1929.

642 **I. (£15, R.N. for Champion,[1] & Champion[2])**—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shropshire, for **Perton Lute** 50945, born April 3, 1929, bred by H. Dent, Perton Court, Hereford; *s.* Pivot of Pitsford 45259, *d.* Rose Opal (Vol. 58, p. 233) *by* Resolute 35537.

637 **II. (£10.)**—C. H. Morris, Weston Court, Pembridge, for **Allenstown Resident** 50017, born April 19, 1929, bred by Vice-Admiral A. Craig Waller, C.B., Allenstown, Kells, Co. Meath; *s.* Dinam Laddie 46973, *d.* Pegotty *by* Park Flag 39731.

636 **III. (£5.)**—Lord Cawley, Berrington Hall, Leominster, for **Berrington Bullfinch** 50133, born March 9, 1929; *s.* Aldersend Concrete 38463, *d.* Red Lady *by* Able King 20423.

634 **IV. (£4.)**—His Majesty The King, The Royal Farms, Windsor, for **Windsor Juggler,** born April 7, 1929; *s.* Aldersend Monarch 38469, *d.* Daffodil Queen (Vol. 54, p. 154) *by* Lulsley Statesman 37327.

641 **R. N.**—Major H. R. Sykes, Lydham Manor, Bishop's Castle, for **Lydham Socialist.**

Class 97.—*Hereford Cows or Heifers, in-milk, born on or before August* 31, 1927.

644 **I. (£15, & Champion.[3])**—Sir David R. Llewellyn, Bart., The Court, St. Fagans, Cardiff, for **Priory Cornelia** (Vol. 55, p. 187), born Dec. 30, 1920, calved Feb. 18, 1930, bred by L. Blakstadt, The Priory, Clifford, Hereford; *s.* Resolute 35537, *d.* Cornelia *by* Leen Vistula 31664.

649 **II. (£10.)**—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shropshire, for **Eyton Dowager 21st** (Vol. 58, p. 508), born Dec. 3, 1926, calved Oct. 27, 1929; *s.* Orlando of Pitsford 42697, *d.* Eyton Dowager 7th *by* Wormington Commodore 41834.

648 **III. (£3.)**—Major H. R. Sykes, Lydham Manor, Bishop's Castle, Shropshire, for **Dinam Camelia** (Vol. 54, p. 264), born April 6, 1923, calved Dec. 26, 1929, bred by Dinam Estates Co., Llandinam, Mont.; *s.* Resolute 2nd 39895, *d.* Dinam Countess *by* English Baron 34925.

Class 98.—*Hereford Heifers, born on or between September* 1, 1927, *and August* 31, 1928.

653 **I. (£15, & R. N. for Champion.[3])**—Sir David R. Llewellyn, Bart., The Court, St. Fagans, Cardiff, for **St. Fagans Emmalute** (Vol. 59, p. 375), born Sept. 15, 1927; *s.* Fagans Paxolute 48655, *d.* Crossways Emerald 3rd *by* Bounteous 36107.

652 **II. (£10.)**—W. H. Brown Cave, Wallend, Monkland, Leominster, for **Victoria** (Vol. 59, p. 204), born March 10, 1928; *s.* Crossway's Violetous 42178, *d.* Queen *by* Leen Sundial 39455.

654 **III. (£5.)**—Sir David R. Llewellyn, Bart., for **St. Fagans Gemlute** (Vol. 59, p. 376), born Jan. 20, 1928; *s.* St. Fagans Paxolute 48655, *d.* St. Fagans Emerald *by* Crossways Gamesterlute 42170.

651 **R. N.**—Mrs. Brian Bibby, Hardwicke Grange, Shrewsbury, for **Clive Countess 23rd.**

Class 99.—*Hereford Heifers, born on or between September* 1 *and November* 30, 1928.[4]

655 **I. (£15.)**—His Majesty The King, The Royal Farms, Windsor, for **Windsor Ellen** (Vol. 61, p. 182), born Sept. 24; *s.* Aldersend Monarch 38469, *d.* Envy *by* Admiral Beatty 31222.

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[1] Perpetual Silver Challenge Trophy given through the Hereford Herd Book Society for the best Bull.

[2] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Junior Bull.

[3] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Cow or Heifer.

[4] Prizes given by the Hereford Herd Book Society.

659 **II. (£10.)**—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Cardiff, for **St. Fagans Pussylute** (Vol. 60, p. 397), born Sept. 13; *s.* St. Fagans Paxolute 48655, *d.* Pansy of Pitsford 2nd *by* Prince of Pitsford 41499.

662 **III. (£5.)**—JOHN WALKER, Knightwick Manor, Worcester, for **Knightwick Oyster Shell**, born Sept. 10; *s.* Defence 38981, *d.* Oyster Queen (Vol. 53, p. 498) *by* Patchwork 34090.

Class 100.—*Hereford Heifers, born on or after December* 1, 1928.

666 **I. (£15.)**—R. S. DE Q. QUINCEY, The Vern, Bodenham, Hereford, for **Petunia Vern 2nd** (Vol. 60, p. 519), born Jan. 25, 1929; *s.* Impressionist 46088, *d.* Petunia Vern *by* Bodenham Escort 43343.

663 **II. (£10.)**—MRS. BRIAN BIBBY, Hardwicke Grange, Shrewsbury, for **Clive Bramble 10th** (Vol. 60, p. 196), born Jan. 4, 1929, bred by the late Capt. F. B. F. Bibby, Hardwicke Grange; *s.* Town Charmer 45480, *d.* Clive Bramble 7th *by* Clive Gentleman 6th 38831.

668 **III. (£5.)**—JOHN WALKER, Knightwick Manor, Worcester, for **Knightwick Oyster Flirt**, born Dec. 11, 1928; *s.* Defence 38981, *d.* Oyster Pearl (Vol. 59, p. 563) *by* Wickton Gipsy Chief 40300.

667 **R. N.**—MAJOR H. R. SYKES, Lydham Manor, Bishop's Castle, for **Lydham Nectarine.**

Devons.

Class 101.—*Devon Bulls, born in or before* 1928.

671 **I. (£15, & R. N. for Champion.[1])**—ABRAHAM TRIBLE & SONS, Halsdon Barton, Holsworthy, for **Nerrols Best Man** 12374, born Feb. 16, 1923, bred by R. Bruford, Nerrols, Taunton; *s.* Highfield Advance 9318, *d.* Nerrols Harebell 2nd 31667 *by* Highfield Chieftain 8915.

669 **II. (£10.)**—H. H. BROADMEAD, Enmore Castle, Bridgwater, for **Werrington Lord** 13831, born April 19, 1926, bred by A. M. Williams, Werrington Park, Launceston; *s.* Nerrols Best Man 12374, *d.* Cothelstone Ruth 32921 *by* All But 9935.

670 **III. (£5.)**—MAJOR R. C. COLDWELL, Spring Grove, Milverton, for **Carey Barrister** 14341, born March 17, 1928, bred by F. J. Stanbury, Carey Barton, St. Giles in the Heath; *s.* Highfield Cowboy 11514, *d.* Carey Darkie 5th 37471 *by* Cutsey Guardsman 11432.

Class 102.—*Devon Bulls, born in* 1929.

672 **I. (£15, & Champion.[1])**—H.R.H. THE PRINCE OF WALES, K.G., Duchy Home Farm, Stoke Climsland, Cornwall, for **Coombeshead Monarch** 14801, born Feb. 18; *s.* Kittisford Monomark 13640, *d.* Coombeshead Gay Girl 38790 *by* Highfield Gem 8919.

677 **II. (£10.)**—GORDON C. SKINNER, Pound, Bishop's Lydeard, Somerset, for **Duke of Pound 2nd**, born June 6; *s.* Charton Tip Top 2nd 13515, *d.* Pound Duchess 18th 38532 *by* Clampit Dreadnought 11797.

674 **III. (£5.)**—R. GYNN & SON, Treslay, Camelford, for **Treslay Royal Sovereign 1st** 15097, born July 7; *s.* Netherexe Good Sort 13693, *d.* Lambrenny Daisy 1st 37276 *by* Coombeshead Samson 11816.

673 **R. N.**—G. C. ALEXANDER, Manor House, Winterbourne Stoke, Salisbury, for **Stoke Goldcoin.**

Class 103.—*Devon Cows or Heifers, in-milk, born in or before* 1927.

680 **I. (£15, & Champion.[2])**—GORDON C. SKINNER, Pound, Bishop's Lydeard, Somerset, for **Pound Beauty 66th** 36290, born June 26, 1923, calved Dec. 13, 1929; *s.* Pound Larker 10282, *d.* Heatherton Beauty 65th 31619 *by* Gotton Prince 6th 9301.

682 **II. (£10.)**—FRED W. VERNEY, Avercombe, Bishopsnympton, Devon, for **Tulips Pansy** 36622, born Jan. 29, 1923, calved Oct. 1, 1929, bred by H. Britton, Jersey Farm, Sampford Peverell, Tiverton; *s.* Highfield Warbaby 9342, *d.* Gornhay Tulip 31649 *by* Tumbler Secundus 9490.

679 **III. (£5.)**—H. H. BROADMEAD, Enmore Castle, Bridgwater, for **Enmore Maggie** 40062, born Dec. 28, 1926, calved Dec. 15, 1929; *s.* Clampit Dreadnought 11797, *d.* Highfield Daisy 3rd 37219 *by* Highfield Dumpling 10592.

Class 104.—*Devon Heifers, born in* 1928.

686 **I. (£15, & R. N. for Champion.[2])**—CECIL BRENT, Clampit, Callington, Cornwall, for **Clampit Dainty 10th** 41040, born March 31; *s.* Pound Romper 12413, *d.* Clampit Dainty 7th 37749 *by* Highfield Gem 8919.

683 **II. (£10.)**—HIS MAJESTY THE KING, The Royal Farms, Windsor, for **Windsor Fancy** 40938, born Jan. 2; *s.* Longlands Larker 13227, *d.* Windsor Fairy 34609 *by* Cutsey Brendon 10514.

684 **III. (£5.)**—H.R.H. THE PRINCE OF WALES, K.G., Duchy Home Farm, Stoke Climsland, Cornwall, for **Coombeshead Countess** 40941, born Jan. 4; *s.* Coombeshead Conqueror 13063, *d.* Coombeshead Crocus 31587 *by* Clampit Gay Laddie 9197.

687 **R. N.**—R. GYNN & SON, Treslay, Camelford, for **Treslay Piccaninny 1st.**

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[1] Champion Prize of £10 10*s.* given by the Devon Cattle Breeders' Society for the best Bull.

[2] Champion Prize of £10 10*s.* given by the Devon Cattle Breeders' Society for the best Cow or Heifer.

Class 105.—*Devon Heifers, born in* 1929.

689 I. (£15.)—Cecil Brent, Clampit, Callington, Cornwall, for **Clampit Gay Lass 33rd** 42020, born April 5; *s.* Highfield Gem 8919, *d.* Clampit Gay Lass 27th 38900 *by* Pound Romper 12413.

691 II. (£10.)—R. Gynn & Son, Treslay, Camelford, for **Treslay Snowdrop 1st** 42204, born Feb. 3; *s.* Netherexe Good Sort 13693, *d.* Lambrenny Favourite 38433 *by* Whiteleigh Captain 11293.

688 III. (£5.)—G. C. Alexander, Manor House, Winterbourne Stoke, Salisbury, for **Stoke Gay Lass 2nd** 41949, born Jan. 17; *s.* Stoke Glory 13760, *d.* Clampit Gay Lass 12th 31632 *by* Highfield Gem 8919.

692 R. N.—William A. King, Sandhill, Withycombe, Taunton, for **Sandhill Cherry 7th.**

Sussex.

Class 106.—*Sussex Bulls, born in or before* 1928.

695 I. (£15, R. N. for Champion,[1] & R. N. for Champion.[2])—Lt.-Col. G. H. Loder, High Beeches, Handcross, Haywards Heath, for **Dillions Graceful Lad** 6824, born Sept. 28, 1927; *s.* Bolebroke Lad 20th 6423, *d.* Dillions Lovely 6th 20841 *by* Brownings King 6th 4914.

694 II. (£10.)—Liebig's Extract of Meat Co., Ltd., Crithall Farm, Benenden, Kent, for **Petworth Toreador 22nd** 7024, born Feb. 23, 1928, bred by Lord Leconfield, Petworth; *s.* Lock Toreador 2nd 5924, *d.* Lock Millmaid 6th 18390 *by* Birling Geoffrey 2nd 4252.

697 III. (£5.)—Alfred Palmer, West Park, Lingfield, Surrey, for **Dillions Harbinger** 7047, born Feb. 22, 1928, bred by Lt.-Col. G. H. Loder, High Beeches, Handcross, Haywards Heath; *s.* Bolebroke Lad 20th 6423, *d.* Dillions Darkey 1st 19500 *by* Launcelot 4802.

Class 107.—*Sussex Bulls, born in* 1929.

701 I. (£15, Champion,[1] Champion,[2] & Champion.[3])—Edward Hurtley, Crowborough Warren, Sussex, for **Crowborough Warren Marksman 6th,** born March 14; *s.* Bolebroke Marksman 14th 6827, *d.* Oakover Daisy 25th 22272 *by* Oakover Chevalier 6th 5610.

704 II. (£10.)—Lt.-Col. J. R. Warren, O.B.E., M.C., The Hyde, Handcross, Haywards Heath, for **Handcross Harlequin,** born Feb. 4; *s.* Ticehurst King Twin 2nd 6751, *d.* Lock Knelle 2nd 23244 *by* Bolebroke Harlequin 3rd 6247.

698 III. (£5.)—Col. Sir G. L. Courthope, Bart., M.C., M.P., Whiligh, Wadhurst, Sussex, for **Whiligh King George,** born Feb. 20; *s.* Ticehurst King Twin 6557, *d.* Whiligh Adelaide 10th 21843 *by* Normanhurst Albert 4864.

Class 108.—*Sussex Cows or Heifers, in-milk, born in or before* 1927.

708 I. (£15, Champion,[4] & R. N. for Champion.[3])—Lt.-Col. J. R. Warren, O.B.E., M.C., The Hyde, Handcross, Haywards Heath, for **Lock Knelle 2nd** 23244, born March 16, 1926, calved March 2, 1930, bred by E. Ezra, Lock, Partridge Green, Sussex; *s.* Bolebroke Harlequin 3rd 6247, *d.* Marlands Lady Knelle 20113 *by* Jacobite 5116.

705 II. (£10.)—Edward Hurtley, Crowborough Warren, Sussex, for **Oakover Daisy 25th** 22272, born Jan. 21, 1924, calved Feb. 11, 1930, bred by the late Campbell Newington, Oakover, Ticehurst; *s.* Oakover Chevalier 6th 5610, *d.* Oakover Daisy 12th 18910 *by* Mabledon Lad 4326.

Class 109.—*Sussex Heifers, born in* 1928.

710 I. (£15.)—Brig.-Gen. G. Holdsworth, C.B., C.M.G., Glynde Place, Glynde, Sussex, for **Caburn Gentle 3rd** 24672, born Feb. 27; *s.* Caburn Diploma 6370, *d.* Brooker Gentle 20303 *by* Bolebroke Peaceful Mariner 5039.

711 II. (£10.)—Edward Hurtley, Crowborough Warren, Sussex, for **Crowborough Warren Daisy 1st** 24681, born Jan. 21; *s.* Ripton Rover 5th 6302, *d.* Oakover Daisy 15th 19561 *by* Mabledon Lad 4326.

712 R. N.—Lord Leconfield, Petworth House, Sussex, for **Petworth Comely.**

Class 110.—*Sussex Heifers, born in* 1929.

716 I. (£15, & R. N. for Champion.[4])—Brig.-Gen. G. Holdsworth, C.B., C.M.G., Glynde Place, Glynde, Sussex, for **Caburn Beauty 9th,** born Jan. 11; *s.* Caburn Diploma 6370, *d.* Caburn Gladeye 20747 *by* Wadden Luck 4891.

720 II. (£10.)—Lt.-Col. J. R. Warren, O.B.E., M.C., The Hyde, Handcross, Haywards Heath, for **Wickham Court Beauty 113th,** born Jan. 17, bred by E. & B. Kelsey, Wickham Court, Canterbury; *s.* Ripton Rover 4554, *d.* Wickham Court Beauty 70th 21432 *by* Ripton Major 3rd 4278.

714 III. (£5.)—Col. Sir G. L. Courthope, Bart., M.C., M.P., Whiligh, Wadhurst, Sussex, for **Whiligh Curly 32nd,** born April 3; *s.* Ticehurst King Twin 6557, *d.* Whiligh Curly 15th 21844 *by* Normanhurst Albert 4864.

718 R. N.—Lord Leconfield, Petworth House, Sussex, for **Petworth Daisy 3rd.**
H. C.—717.

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[1] Champion Silver Medal given by the Sussex Herd Book Society for the best Bull.

[2] Perpetual Silver Challenge Trophy given through the Sussex Herd Book Society for the best Bull.

[3] Perpetual Silver Challenge Cup given by the Sussex Cattle Breeders' Society of South Africa for the best Sussex.

[4] Champion Silver Medal given by the Sussex Herd Book Society for the best Cow or Heifer.

Welsh.

Class 111.—*Welsh Bulls, born on or before November* 30, 1928.

722 **I. (£15, & Champion.[1])**—Sir Crosland Graham, Clwyd Hall, Ruthin, for **Pilsdon Baldwin** 2921, born Aug. 13, 1924, bred by S. H. Jenks, Pilsdon Manor, Bridport; *s.* Ty Croes Llewellyn 2376, *d.* Penrhos Branwen 4640 *by* Nipper of Penrhyn 1131

721 **II. (£10, & R. N. for Champion.[1])**—Major J. C. Wynne Finch, Voelas, Bettws-y-Coed, for **Ynysfechan Darkie** 3272, born May 2, 1925, bred by Edward Collinson, Ynysfechan, Arthog, Merioneth; *s* Hwfa Jonah 1993, *d.* Ynysfechan Hazel 3930 *by* Admiral 1144

724 **III. (£5.)**—Mrs. Williams-Owen, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Coron** 3237, born Dec 18, 1924; *s.* Penmynydd Iolo 2324, *d.* Corwen Maggie 4356 *by* Bodrida Lion 1209.

Class 112.—*Welsh Bulls, born on or between December* 1, 1928, *and November* 30, 1929.

726 **I. (£15.)**—Brogyntyn Estate Company, Glyn Home Farm, Talsarnau, Merioneth, for **Egryn Cyndeyrn**, born Jan. 24, 1929, bred by Moses Griffiths, Egryn, Dyffryn, North Wales; *s.* Towyn Arwr 3236, *d.* Escuan Cadi 4914 *by* Escuan Nero 337.

729 **II. (£10.)**—Mrs. Williams-Owen, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Hector**, born Jan. 25, 1929; *s.* Treveilyr Falcon 3656, *d.* Brynhyfryd Mwynig 7091 *by* Merion Mon 1411.

728 **III. (£5.)**—Lord Penrhyn, Penrhyn Castle, Bangor, for **Penrhyn Bank**, born Jan. 17, 1929; *s.* Escuan Cawr 1640, *d.* Banksia 6th of Penrhyn 9269 *by* Helium of Penrhyn 2518.

726, 731, 744 **Special £15.[2]**—Brogyntyn Estate Co., for **Egryn Cyndeyrn, Glyn Redshank** and **Glyn Tern.**

722, 732, 738 **Special £10.[2]**—Sir Crosland Graham, for **Pilsdon Baldwin, Cim Doli** and **Graemes Annie.**

721, 736, 737 **R. N. for Specials.[2]**—Major J. C. Wynne Finch, for **Ynysfechan Darkie, Voelas Daphne** and **Voelas Dusky.**

Class 113.—*Welsh Cows or Heifers, in-milk, born on or before November* 30, 1927.

731 **I. (£15, & Champion.[3])**—Brogyntyn Estate Company, Glyn Home Farm, Talsarnau, Merioneth, for **Glyn Redshank** 9660, born Dec. 9, 1926, calved Jan. 12, 1930; *s.* Plas Samson 2925, *d.* Glyn Kittywake 4116 *by* Madryn Joffre 1147.

732 **II. (£10, & R. N. for Champion.[3])**—Sir Crosland Graham, Clwyd Hall, Ruthin, for **Cim Doli** 5823, born Feb. 23, 1922, calved June 8, 1930, bred by J. W. Holland, Cim, Abersoch; *s.* Cim Chamberlain 1908, *d.* Cim Mary 4999 *by* Lord Roberts 921.

734 **III. (£5.)**—Lord Penrhyn, Penrhyn Castle, Bangor, for **Gwen 19th of Penrhyn** 8585, born Jan. 4, 1925, calved Jan. 30, 1930; *s.* Harold of Penrhyn 1984, *d.* Gwen 6th of Penrhyn 4463 *by* Ensign of Penrhyn 849.

735 **R. N.**—Mrs. Williams-Owen, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Diamond.**

Class 114.—*Welsh Cows or Heifers, in-milk, any age, whose milk yield has been officially recorded and checked.*[4]

[No Entry.]

Class 115.—*Welsh Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

736 **I. (£15.)**—Major J. C. Wynne Finch, Voelas, Bettws-y-Coed, for **Voelas Daphne** 10490, born Aug. 26, 1928; *s.* Ynysfechan Darkie 3272, *d.* Voelas Xanthe 8106 *by* Plas y bryn Champion 1744.

740 **II. (£10.)**—C. H. Lloyd-Edwards, Nanhoron, Pwllheli, for **Nanhoron Poppy 2nd** 10298, born Dec. 3, 1927; *s.* Madryn Premier 2555, *d.* Nanhoron Poppy 6075 *by* Tregarn Marvel 1400.

738 **III. (£5.)**—Sir Crosland Graham, Clwyd Hall, Ruthin, for **Graemes Annie** 10157, born Dec. 2, 1927; *s.* Pilsdon Baldwin 2921, *d.* Pansy of Nantclwyd 6865 *by* Bodelwa Botha 1267.

737 **R. N.**—Major J. C. Wynne Finch, for **Voelas Dusky.**

H. C.—743.

Class 116.—*Welsh Heifers, born on or between December* 1, 1928, *and November* 30, 1929.

744 **I. (£15.)**—Brogyntyn Estate Company, Glyn Home Farm, Talsarnau, North Wales, for **Glyn Tern**, born April 18, 1929; *s.* Caradoc 3rd of Plynlimon 3298, *d.* Glyn Kittewake 4116 *by* Madryn Joffre 1147.

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[1] Champion Silver Medal given by the Welsh Black Cattle Society for the best Bull.

[2] Special Prizes of £15 (First Prize) and £10 (Second Prize) given by the Welsh Black Cattle Society for the best groups of one Bull and two Cows or Heifers.

[3] Champion Silver Medal given by the Welsh Black Cattle Society for the best Cow or Heifer.

[4] Prizes given through the Welsh Black Cattle Society.

745 II. (£10.)—C. H. LLOYD EDWARDS, Nanhoron. Pwllheli, for **Nanhoron Jessie 2nd**, born Dec. 10, 1928; *s.* Egryn Cardi 3557, *d.* Jessie of Nantclwyd 6862 *by* Bodelwa Botha 1267.
747 III. (£5.)—MRS WILLIAMS-OWEN, Treveilyr, Bodorgan S O., Anglesey, for **Treveilyr Gwynedd**, born Dec. 23, 1928; *s.* Penrhos Cadwalade 3203, *d.* Treveilyr Esyllt 9475 *by* Penmynydd Iolo 2324.
748 R. N.—MRS. WILLIAMS-OWEN, for **Treveilyr Hyacinth.**
H. C.—746.

Longhorns.

Class 117.—*Longhorn Bulls, born in or before* 1929.

752 I. (£15.)—R. S. WALTERS, Norfolk Lodge, Sutton Coldfield, Warwickshire, for **Arden Final 891**, red, brindle and white, born April 15, 1925, bred by W. H. Sale, Arden Hill, Atherstone; *s.* Arden Warrior 806, *d.* Arden Fashion *by* Arden Dictator 762.
750 II. (£10.)—W. E. SWINNERTON, Crickley Barrow House, Northleach, Cheltenham, for **Waddon Duke 950**, red, brindle and white, born June 5, 1927, bred by F. J. Mayo, Friar Waddon, Weymouth; *s.* Canley Omega 895, *d.* Dewberry *by* Lord Victor of Kent 680.
753 III. (£5.)—R. S. WALTERS, for **Sutton Victor 948**, red, brindle and white, born March 27, 1929; *s.* Arden Final 891, *d.* Lady Violet of Kent *by* Admiral 632.
749 R. N.—FRED BILLING, Whoberley Hall, Coventry, for **Sutton Rufus.**

Class 118.—*Longhorn Cows or Heifers, in-milk, born in or before* 1927.

756 I. (£15.)—J. W. SWINNERTON-WESTON, Over Whitacre, Birmingham, for **Whitacre Beauty 3rd** (vol. 14, p. 16), red, brindle and white, born April 24, 1925, calved June 14, 1930; *s.* Chippinghurst Greatheart 812, *d.* Narleys Winsome Beauty *by* Narleys Conqueror 466.
754 II. (£10.)—W. E. SWINNERTON, Crickley Barrow House, Northleach, Cheltenham, for **Chestnut of Chippinghurst** (vol. 13, p. 24), red and white, born Aug. 17, 1922, calved April 1, 1930, bred by Alfred Wheeler, Chippinghurst Manor, Cuddesdon, Oxford, *s.* Park Royal 777, *d.* Lady Eve of Kent *by* Eastwell Eveno 664.
755 III. (£5.)—W. E. SWINNERTON, for **Stivichall Ruby 2nd** (vol. 14, p. 15), red, brindle and white, born July 5, 1924, calved Sept. 15, 1929; *s.* Stivichall Cure 2nd 880, *d.* Putley Rudbeckia 2nd *by* Arden Dreadnought 763.

Aberdeen-Angus.

Class 119.—*Aberdeen-Angus Bulls, born on or before November* 30, 1927.

758 I. (£15, R. N. for Champion,[1] R. N. for Champion,[2] & R. N. for Champion.[3])—J. J. CRIDLAN, Maisemore Park, Gloucester, for **Prince Eric 5th of Maisemore 60185**, born Dec. 11, 1924; *s.* Eric 2nd of Maisemore 43525, *d.* Pride of Maisemore 22nd 69158 *by* George R. of Ballindalloch 30611.
762 II. (£10.)—CAPT. A. L. GOODSON, Kilham, Mindrum, Northumberland, for **Kythe of Dunira 64963**, born Dec. 26, 1926, bred by W. G. MacBeth, Dunira, Perthshire; *s.* Reminder of Ballindalloch 57999, *d.* Kobe 69602 *by* Master Bummer 46346.
759 III. (£5.)—COL. RAYMOND W. FFENNELL, Wytham Abbey Estate, Oxford, for **Black Brutus of Llantwit 63386**, born Jan. 21, 1927, bred by F. H. Turnbull, Llantwit, Cardiff; *s.* Pranksome 53401, *d.* Black Bara 70968 *by* Evendale of Bleaton 48139.
760 IV. (£4.)—COL. RAYMOND W. FFENNELL, for **Witley Prompter 60555**, born Dec. 29, 1924, bred by Sir John Leigh, Bart., Witley, Surrey; *s.* Mulben Peerless 51074, *d.* Witley Princess 2nd 63225 *by* Royal Prince of Brucklay 36931.
768 R. N.—CHARLES T. SCOTT, Buckland Manor, Broadway, Worcs., for **Vandyke of Buckland.**

Class 120.—*Aberdeen-Angus Bulls, born on or between December* 1, 1927, *and November* 30, 1928.

780 I. (£15, Champion,[1] & Champion.[3])—G. H. RUSSELL, The Burn, Edzell, Scotland, for **Benefactor of Castlecraig 66211**, born Dec. 9, 1927, bred by Peter D. Robertson, Castlecraig, Nigg; *s.* Jupiter of Castlecraig 55161, *d.* Baffling Maid 5th of Castlecraig 70440 *by* Proud Eric of Aberlour 44516.
771 II. (£10.)—VISCOUNT ALLENDALE, Bywell Home Farm, Stocksfield-on-Tyne, for **Elurio of Nisbethill 67008**, born Jan. 11, 1928, bred by David P. Elliot, Nisbet Hill, Duns; *s.* Prince Bailie 57842, *d.* Elusive of Nisbethill 69321 *by* Edgar of Harviestoun 43288.
776 III. (£5.)—F. G. MCCONACHIE, Rosebrae, Elgin, for **Esquimo 67273**, born Dec. 13, 1927, bred by Sir John R. Findlay, Bart., Aberlour; *s.* Boxer of Ballindalloch 47409, *d.* Evening Mist 74002 *by* Elimiotis of Ballindalloch 39353.

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[1] Perpetual Silver Challenge Trophy given through the Aberdeen-Angus Cattle Society for the best Bull.

[2] Silver Medal given by the English Aberdeen-Angus Cattle Association for the best animal bred in England or Wales.

[3] Gold Medal given by the English Aberdeen-Angus Cattle Association for the best animal of the opposite sex to that of the animal awarded the Champion Gold Medal of the Aberdeen-Angus Cattle Society.

774 **IV. (£4.)**—J. J. Cridlan, Maisemore Park, Gloucester, for **Estevad of Maisemore** 67291, born Feb. 8, 1928; *s.* Evader of Harviestoun 52626, *d.* Estella 7th of Maisemore 73701 *by* Eric 2nd of Maisemore 43525.

775 **V. (£3.)**—David P. Elliot, Nisbet Hill, Duns, Berwickshire, for **Hillman of Nisbethill** 67714, born March 24, 1928; *s.* Prince Baillie 57842, *d.* Hilda of Nisbethill 78430 *by* Etonian of Bleaton 45799.

783 **R. N.**—Robert W. Walker, Portlethen, by Aberdeen, for **Gaffer Dunstan.**

C.—777.

Class 121.—*Aberdeen-Angus Bulls born on or between December* 1, 1928, *and November* 30, 1929.

799 **I. (£15.)**—J. P. Ross-Taylor, Mungoswalls, Duns, Berwickshire, for **Mungos Gregalach** 71490, born Dec. 8, 1928; *s.* Patron of Bywell 55449, *d.* Graceful 6th of Craighead 73035 *by* Eclipse of Ballindalloch 43266.

796 **II. (£10.)**—John McG. Petrie, Asleid, New Deer, Aberdeenshire, for **Esmero** 70515, born March 9, 1929; *s.* Gairn of Abergeldie 64513, *d.* Evaphora 65554 *by* Earl Taurus of Ballindalloch 39254.

801 **III. (£5.)**—Charles T. Scott, Buckland Manor, Broadway, Worcs., for **Inaldor 2nd** 71003, born Dec. 7, 1928, bred by D. M. Allan, Ballintomb, Grantown-on-Spey; *s.* Provost of Moyness 53591, *d.* Inalexa 55714 *by* Ilex of Aldbar 32033.

794 **IV. (£4.)**—Col. Norman Kennedy, D.S.O., Doonholm, Ayr, for **Prince Benson of Doonholm** 71867, born Jan. 4, 1929; *s.* Prince Benson of Ballindalloch 51308, *d.* Protection 60531 *by* Mondello 27193.

787 **V. (£3.)**—J. J. Cridlan, Maisemore Park, Gloucester, for **Matchbox of Lochlane** 71421, born Jan. 18, 1929, bred by F. A. Rottenburg, Lochlane, Crieff; *s.* Primero of Careston 62653, *d.* Matchless Beauty of Doonholm 81396 *by* Prince Benson of Ballindalloch 51308.

797 **R. N.**—Sir Prince Prince-Smith, Bart., Southburn House, Driffield, for **Joker of Southburn.**

C.—792, 793, 802.

Class 122.—*Aberdeen-Angus Cows or Heifers, in-milk, born on or before November* 30, 1927.

807 **I. (£15, Champion,[1] & Champion.[2])**—Col. Norman Kennedy, D.S.O., Doonholm, Ayr, for **Madeira of Doonholm** 81393. born March 1, 1926, calved April 4, 1930; *s.* Prince Benson of Ballindalloch 51308, *d.* Marsala 62717 *by* Planet of Duthil 35008.

809 **II. (£10.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover, Hants, for **Idella of Amport** 88901, born Jan. 11, 1927, calved Jan. 8, 1930; *s.* Eski of Doonholm 56860, *d.* Princess Ida of Amport 80106 *by* Earl of Surrey 43238.

805 **III. (£5.)**—David P. Elliot, Nisbet Hill, Duns, Berwickshire, for **Heatherberry of Nisbethill** 83637, born Feb. 24, 1927, calved Feb. 14, 1930; *s.* Eros of Kinermony 59147, *d.* Bell Heather of Nisbethill 60086 *by* Kaiser of Ballindalloch 34736.

804 **R. N.**—Ernest Ridley Debenham, Bladen Farms, Briantspuddle, Dorchester, for **Ermine 3rd of Ruthven.**

H. C.—808. **C.**—806.

Class 123.—*Aberdeen-Angus Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

820 **I. (£15.)**—Robert W. Walker, Portlethen, by Aberdeen, for **Euthanasia 9th** 88761, born Dec. 13, 1927; *s.* Pundit of Moyness 49137, *d.* Euthanasia 8th 65986 *by* Erris of Bleaton 39494.

815 **II. (£10.)**—R. Wemyss Honeyman, Derculich, Strathtay, Perthshire, for **Beryl 2nd of Derculich** 87185, born Dec. 20, 1927; *s.* Evolun of Ballindalloch 61721, *d.* Beryl of Pittmedden 81354 *by* Eclotus of Ballindalloch 45486.

818 **III. (£5.)**—Thomas Murray & Sons, Laigh Grange, Maybole, Ayrshire, for **Echidna of Laigh Grange** 87909, born Dec. 10, 1927; *s.* Prince Benson of Ballindalloch 51308, *d.* Edith of Laigh Grange 79353 *by* Prince Eric of Laigh Grange 55615.

811 **IV. (£4.)**—Viscount Allendale, Bywell Home Farm, Stocksfield-on-Tyne, for **Matuba of Bywell** 85932, born Feb. 1, 1928; *s.* Erebus of Harviestoun 56780, *d.* Matuta of Bywell 75663 *by* Electricity of Bywell 52341.

817 **R. N.**—Col. Norman Kennedy, D.S.O., Doonholm, Ayr, for **Elinka of Doonholm.**

H. C.—821.

Class 124.—*Aberdeen-Angus Heifers, born on or between December* 1, 1928, *and November* 30, 1929.

829 **I. (£15, Champion,[3] R. N. for Champion,[1] & R. N. for Champion.[2])**—Capt. A. L. Goodson, Kilham, Mindrum, Northumberland, for **Eulima of Kilham** 90251, born Dec. 24, 1928; *s.* Black Brutus of Llantwit 63386, *d.* Eulima 81st 78959 *by* Kodak of Gallovie 48575.

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[1] Champion Gold Medal given by the Aberdeen-Angus Cattle Society for the best animal.

[2] Silver Medal given by the Argentine Aberdeen-Angus Association for the best animal bred by Exhibitor.

[3] Silver Medal given by the English Aberdeen-Angus Cattle Association for the best animal bred in England or Wales.

830 **II. (£10.)**—COL. NORMAN KENNEDY, D.S.O., Doonholm, Ayr, for **Moselle of Doonholm** 90615, born Jan. 20, 1929; *s.* Primero of Careston 62653, *d.* Madeira of Doonholm 81393 *by* Prince Benson of Ballindalloch 51308.

828 **III. (£5.)**—DAVID P. ELLIOT, Nisbet Hill, Duns, Berwickshire, for **Bellesa of Nisbethill** 90009, born Dec. 13, 1928; *s.* Eros of Kinermony 59147, *d.* Belena 2nd 69313 *by* Eversure 41548.

835 **IV. (£4.)**—ROBERT W. WALKER, Portlethen, by Aberdeen, for **Pride Flora of Coull** 90736, born May 4, 1929, bred by Lt.-Col. W. Lilburn, Coull, Aboyne, Aberdeenshire; *s.* Evolorum of Ballindalloch 52700, *d.* Pride Fiscal 77090 *by* Earl Esco of Ballindalloch 50034.

827 **V. (£3.)**—J. J. CRIDLAN, Maisemore Park, Gloucester, for **Lady Surpassing** 92150, born Dec. 7, 1928, bred by E. G. Wheler Galton, Claverdon Leys, Warwick; *s.* Black Erne of Bleaton 56215, *d.* Lady Surprise 61388 *by* Black Elm 37266.

836 **R. N.**—COL. C. W. SOFER WHITBURN, Amport St. Mary, Andover, Hants, for **Blossom of Amport.**

C.—831.

Cup.[1]—COL. NORMAN KENNEDY, D.S.O.

R. N. for Cup.[1]—CAPT. A. L. GOODSON.

Belted Galloways.

Class 125.—*Belted Galloway Bulls, born on or before November* 30, 1928.

838 **I. (£15, & Champion.**[2]**)**—THE MARQUIS OF BUTE, K.T., Craigeach, Kirkcowan, for **Mochrum Sturdee of Craigeach** 773B, born Dec. 7, 1926; *s.* Mark Ewart 495B, *d.* Mochrum Nancy of Craigeach 237B *by* Mochrum Sir George of Craigeach.

845 **II. (£10.)**—W. S. TETLEY, Drury Lane Farm, Redmarley, Gloucester, for **Shenley Aristocrat** 797B, born May 9, 1927, bred by R. C. Irving, Shenley Lodge, Ridge Hill, Barnet; *s.* Knockbrex Prince Imperial 109B (D), *d.* Shenley Index 845B *by* Mochrum Sir Robert of Craigeach 60B.

841 **III. (£5.)**—SIR AUGUST CAYZER, BART., Gartmore, Stirling, for **Gartmore Robin** 707B, born April 17, 1927; *s.* Mark Hector 56B, *d.* Nan of Auchengassel 27570 *by* Tramp of Auchengassel 13488.

839 **R. N.**—J. DOUGLAS BROWN, Corseyard, Kirkcudbright, for **Boreland Clarion.**

Class 126.—*Belted Galloway Bulls, born on or between December* 1, 1928, and *November* 30, 1929.[3]

847 **I. (£15.)**—J. DOUGLAS BROWN, Corseyard, Kirkcudbright, for **Knockbrex Goliath** 887B, born April 19, 1929; *s.* Knockbrex Dragon 601B, *d.* Knockbrex Claire 762B *by* Knockbrex Pollux 49B.

852 **II. (£10.)**—ROBERT CHRYSTAL IRVING, Shenley Lodge, Ridge Hill, Barnet, Herts, for **Shenley Caligula** 985B, born May 22, 1929; *s.* Knockbrex Elder 691B, *d.* Shenley Index 854B *by* Mochrum Sir Robert of Craigeach 60B.

850 **III. (£5.)**—SIR WILLIAM CROSS OF SCATWELL, BART., Muir of Ord, Ross-shire, for **Scatwell Field Marshal** 923B, born April 8, 1929; *s.* Knockbrex Beau Brummel 443B, *d.* Scatwell Blossom *by* Knockbrex Pollux 49B.

853 **R. N.**—ROBERT CHRYSTAL IRVING, for **Shenley Court Jester.**

Class 127.—*Belted Galloway Cows or Heifers, in-milk, born on or before November* 30, 1927.

856 **I. (£15, & R. N. for Champion.**[2]**)**—J. DOUGLAS BROWN, Corseyard, Kirkcudbright, for **Knockbrex Echo** 1280B, born May 17, 1927, calved Jan. 30, 1930; *s.* Knockbrex Pollux 49B, *d.* Knockbrex Lady Teasdale 179B.

863 **II. (£10.)**—ROBERT CHRYSTAL IRVING, Shenley Lodge, Ridge Hill, Barnet, Herts, for **Knockbrex Diadem** 966B, born May 3, 1926, calved June 15, 1930, bred by J. Douglas Brown, Corseyard, Kirkcudbright; *s.* Knockbrex Pollux 49B, *d.* Knockbrex Crummie 348B *by* Boreland Prodigal 23B.

858 **III. (£5.)**—THE MARQUIS OF BUTE, K.T., Craigeach, Kirkcowan, for **Mochrum Minnie of Craigeach** 236B, born Feb. 9, 1921, calved March 6, 1930; *s.* Mochrum Royal Record of Craigeach 61B, *d.* Mochrum Gip 242B.

857 **IV. (£4.)**—THE MARQUIS OF BUTE, K.T., for **Mochrum Confidence of Craigeach** 1420B, born Feb. 2, 1927, calved Feb. 6, 1930; *s.* Boreland Pharaoh 90B, *d.* Mochrum Emma of Craigeach 387B *by* Mochrum Royal Record 61B.

861 **R. N.**—SIR WILLIAM CROSS OF SCATWELL, BART., Muir of Ord, Ross-shire, for **Scatwell Cherry.**

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[1] Silver Challenge Cup given through the English Aberdeen-Angus Cattle Association for the most points awarded in a combination of entries.

[2] The "Knockbrex" Perpetual Silver Challenge Cup given through the Dun and Belted Galloway Cattle Breeders' Association for the best animal.

[3] Prizes given by the Dun and Belted Galloway Cattle Breeders' Association.

Class 128.—*Belted Galloway Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

867 I. (£15.)—Sir August Cayzer, Bart., Gartmore, Stirling, for **Gartmore Duchess 7th** 1614B, born April 24, 1928; *s.* Mark Hector 56B, *d.* Gartmore Duchess 1st 145B *by* Knockbrex Certainty 44B.

871 II. (£10.)—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, Herts, for **Shenley Black Ivory** 1688B, born Dec. 5, 1927; *s.* Knockbrex Prince Imperial 109B (D), *d.* Shenley Ivory 1176B.

873 III. (£5.)—W. S. Tetley, Drury Lane Farm, Redmarley, Gloucester, for **Redmarley Pine** 1404B, born Dec. 8, 1927, bred by Major Ian Bullough, Drury Lane Farm, Redmarley; *s.* Allington Concrete 467B, *d.* Redmarley Fern 740B *by* Eastington Dusk 97B.

866 IV. (£4.)—J. Douglas Brown, Corseyard, Kirkcudbright, for **Knockbrex Fleur de Lys** 1596B (D), born March 5, 1928; *s.* Knockbrex Dragon 601B, *d.* Knockbrex Pansy 183B (D) *by* Boreland Champion 21B (D).

868 R. N.—Sir William Cross of Scatwell, Bart., Muir of Ord, Ross-shire, for **Scatwell Lady Luck.**

Class 129.—*Belted Galloway Heifers, born on or between December* 1, 1928, *and November* 30, 1929.[1]

874 I. (£15.)—J. Douglas Brown, Corseyard, Kirkcudbright, for **Knockbrex Gipsy** 1828B, born Jan. 20, 1929; *s.* Knockbrex Dragon 601B, *d.* Knockbrex Lady Belinda 175B *by* Knockbrex Viking 50B.

881 II. (£10.)—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, Herts, for **Shenley Claret Cup** 1964B, born March 31, 1929; *s.* Knockbrex Elder 691B, *d. by* Knockbrex Pollux 49B.

882 III. (£5.)—Robert Chrystal Irving, for **Shenley Cloister Bell** 1966B, born March 7, 1929; *s.* Knockbrex Elder 691B, *d.* Shenley Ivory 1270D *by* Knockbrex Prince Imperial 109B (D).

877 R. N.—Sir William Cross of Scatwell, Bart., Muir of Ord, Ross-shire, for **Scatwell Duchess.**

H. C.—879.

Galloways.

Class 130.—*Galloway Bulls, born on or before November* 30, 1929.

884 I. (£15.)—Sir John W. Buchanan-Jardine of Castle Milk, Bart., Castle Milk, Lockerbie, for **Warfare of Waterside** 15721, born Feb. 17, 1924, bred by Arthur Young, Garroch House, Dalry; *s.* Zooa of Auchengassel 15058, *d.* Tenderfoot of Waterside 28364 *by* Sir Denzil of Craigneston 13831.

885 II. (£10.)—Charles S. Forrester, Skitby, Kirklinton, Carlisle, for **Dreadnought 5th** 15708, born Jan. 6, 1924, bred by James Wilson & Son, Tundergarth Mains, Lockerbie; *s.* Mormon's Heir 15033, *d.* Nancy 22nd of Tundergarth Mains 24346 *by* Ingram 11358.

886 III. (£5.)—Arnold Gillett, Crawfordton, Moniaive, Dumfries-shire, for **Yardstick of Auchengassel** 14774, born March 8, 1921, bred by Robert Graham, Auchengassel, Twynholm; *s.* Tarbreoch Worthy 13426, *d.* Stately of Auchengassel 25335 *by* Black Prince 11622.

Class 131.—*Galloway Cows or Heifers, in-milk, born on or before November* 30, 1927.

888 I. (£15, & Champion.[2])—Sir John W. Buchanan-Jardine of Castle Milk, Bart., Castle Milk, Lockerbie, for **Lady Elite of Castlemilk** 30321, born July 10, 1925, calved May 2, 1930, bred by Sir R. W. Buchanan-Jardine of Castle Milk, Bart.; *s.* Mormon of Dalwyne 12617, *d.* Elite 2nd of Castlemilk 28620 *by* Tarbreoch Borderer 3rd 13775.

890 II. (£10.)—R. Jardine Paterson, Balgray, Lockerbie, for **Bell 3rd of Askerton** 30292, born Dec. 2, 1924, calved Dec. 21, 1929, bred by Lady Dorothy Henley, Askerton Castle, Brampton, Cumberland; *s.* War Bond 2nd of Corriehalls 14837, *d.* Ellan Vannin 2nd 27952 *by* Merry Mark 2nd 13757.

Class 132.—*Galloway Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

894 I. (£15, & R. N. for Champion.[2])—Arnold Gillett, Crawfordton, Moniaive, Dumfries-shire, for **Daisy 2nd of Scroggiehall** 32510, born June 16, 1928, bred by Robert Shepley-Shepley, Troquhain, Balmaclellan, Kirkcudbrightshire; *s.* Excelsior of Castlemilk 15884, *d.* Dulcie of Scroggiehall 28282 *by* Kenneth of Killearn 11370.

891 II. (£10.)—Sir John W. Buchanan-Jardine of Castle Milk, Bart., Castle Milk, Lockerbie, for **Lillith 4th of Castlemilk** 32237, born March 14, 1928; *s.* Aviator 2nd of Castlemilk 15612, *d.* Lillith of Castlemilk 28609 *by* Comic 6th of Stepford 14054.

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[1] Prizes given by the Dun and Belted Galloway Cattle Breeders' Association.

[2] The "Jubilee" Perpetual Silver Challenge Cup given by the Galloway Cattle Society for the best animal.

893 **III.** (£5.)—CHARLES S. FORRESTER, Skitby, Kirklinton, Carlisle, for **Brinhilda 13th** 32094, born March 11, 1928, bred by George Forrester, Skitby; *s.* Barmark Merlin 2nd 15554, *d.* Brinhilda 10th 26418 *by* Pioneer 12870.

896 **R. N.**—R. JARDINE PATERSON, Balgray, Lockerbie, for **Gratitude of Balgray.**

Class 133.—*Galloway Heifers, born on or between December* 1, 1928, *and November* 30, 1929.[1]

899 **I.** (£15.)—ARNOLD GILLETT, Crawfordton, Moniaive, Dumfries-shire, for **Empress 2nd of Stepford** 32019, born March 8, 1929, bred by David Brown, Stepford, Dumfries; *s.* Raymond of Fellhouse 16079, *d.* Hawthorn of Mossknowe 23819 *by* Master Key of Blackcombe 10772.

898 **II.** (£10.)—SIR JOHN W. BUCHANAN-JARDINE OF CASTLE MILK, BART., Castle Milk, Lockerbie, for **Lady Fashion 2nd of Castlemilk** 33005, born Jan. 9, 1929; *s.* Warbond 2nd of Corriehalls 14837, *d.* Lady Fashion of Castlemilk 30924 *by* Aviator 2nd of Castlemilk 15612.

900 **III.** (£5.)—D. & J. LITTLE, Whitehill, Corrie, Lockerbie, for **Barmark Lady Nancy 4th** 32874, born Feb. 10, 1929, bred by John Fraser, Barmark, Corsock, Dalbeattie; *s.* War Bond 3rd 16265, *d.* Barmark Lady Nancy 30226 *by* Barlae Commodore 15149.

901 **R. N.**—R. JARDINE PATERSON, Balgray, Lockerbie, for **Grand Lady 3rd of Balgray.**

Park Cattle.

Class 134.—*Park Polled or Horned Bulls, born in or before* 1929.

903 **I.** (£15.)—THE DUKE OF BEDFORD, K.G., Woburn Abbey, Bletchley, for **Woburn Matthias 7th** 223, born Aug. 14, 1924; *s.* Faygate Matthias 71, *d.* Woburn Doris 2nd 166 *by* Woburn Young Chartley 35.

905 **II.** (£10.)—THE DUKE OF BEDFORD, K.G., for **Woburn Pykentegern** 281, born April 3, 1926; *s.* Poynetts Kentigern 199, *d.* Woburn Buckingham 16th 708 *by* Woburn Perfection 2nd 89.

907 **III.** (£5.)—BRIG.-GEN. K. KINCAID-SMITH, St. Osyth Priory, Clacton-on-Sea, for **St. Osyth Friar** 395, born June 8, 1927; *s.* St. Osyth Rex 133, *d.* St. Osyth Carron 1018.

906 **R. N.**—MAJOR Q. E. GURNEY, Bawdeswell Hall, East Dereham, for **Bolwick Laird.**

Class 135.—*Park Polled or Horned Cows or Heifers, in-milk, born in or before* 1927.

912 **I.** (£15.)—BRIG.-GEN. K. KINCAID-SMITH, St. Osyth Priory, Clacton-on-Sea, for **St. Osyth Dolly** 1334, born Feb. 5, 1925, calved April 5, 1930; *s.* St. Osyth Rex 133, *d.* Snowberry 532 *by* Northrepps Woodwick 55.

911 **II.** (£10.)—MAJOR Q. E. GURNEY, Bawdeswell Hall, East Dereham, for **Bawdeswell Countess 2nd** 934, born March 21, 1924, calved Sept. 14, 1929; *s.* Bawdeswell Leo 163, *d.* Bawdeswell Countess 182.

909 **III.** (£5.)—THE DUKE OF BEDFORD, K.G., Woburn Abbey, Bletchley, for **Poynetts Juno** 688, born Aug. 28, 1922, calved May 20, 1930, bred by A. H. Cocks, Poynetts, Henley-on-Thames; *s.* Faygate Brace 13, *d.* Poynetts Aurora 82 *by* Faygate Brace 13.

Dairy Shorthorns.

Class 136.—*Dairy Shorthorn Bulls, born in or before* 1927.

927 **I.** (£15, & Champion.[2])—C. B. WORSEY, Yew Tree Farm, Lapworth, Birmingham, for **Abbotswood Royalist 17th** 212766, roan, born April 15, 1926, bred by M. Fenwick, Abbotswood, Stow-on-the-Wold; *s.* Foxhill Royal Pearl 180901, *d.* Abbotswood Janette 4th *by* Roan Duke 122449.

916 **II.** (£10.)—DEBENHAM & TORY, Anderson, Blandford, for **Anderson Bates 15th** 220511, roan, born May 24, 1927, bred by Robert N. Tory, Anderson, Blandford; *s.* Anderson Champion Bates 186667, *d.* Anderson Red Rose 2nd *by* Kelmscott Conjuror 3rd 137269

926 **III.** (£5.)—J. A. WILLIAMS, Castle Hill, Pannal Ash, Harrogate, for **Greattew Clarence 2nd** 223438, roan, born May 5, 1927, bred by Ralph Tustian, The Leys, Great Tew, Oxford; *s.* Sorbrook Clarence 194218, *d.* 43629 Greattew Hilda *by* Rickerscote Pimpernel 158806.

922 **IV.** (£4.)—A. H. W. OSBORNE & SONS, Branch Farm, Mells, Frome, for **Bricklington Wanderer** 221335, red and white, born May 14, 1927; *s.* Campsfield Squire 2nd 197042, *d.* 32592 Babraham Foremost 4th *by* Lord Lee 2nd 121257.

924 **V.** (£3.)—A. H. WIGGIN, Bordesley Hall, Alvechurch, Birmingham, for **Leam Wild Duke** 224428, roan, born May 21, 1927, bred by H. Johnson, Leam Farms, Leamington; *s.* Lock Somerset 6th 191638, *d.* 6346 Leam Wild Eyes Duchess *by* Eaton Magna Charta 130802.

918 **R. N.**—J. R. LAWSON, Stanley House Farm, Weeton, Preston, for **Wesham Butterdrop.**
H. C.—919. **C.**—914.

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[1] Prizes given by the Galloway Cattle Society.

[2] Champion Prize of £10 given by the Dairy Shorthorn Association for the best Bull.

Class 137.—*Dairy Shorthorn Bulls, born in* 1928.

931 **I. (£15, & R. N. for Champion.[1])**—Sir Mark Collet, Bart., St. Clere, Kemsing, Sevenoaks, for **Bourneplace Lord Pimpernel 2nd** 228422, dark red, born Aug. 22, bred by H. Calvert, Bourne Place, Hildenborough, Tonbridge; *s.* Entwistle Lord Kirklevington 207135, *d.* 43633 Greattew Swanee *by* Rickerscote Pimpernel 158506.

928 **II. (£10.)**—Edmund Askew, Newsham Lodge, Woodplumpton, Preston, for **Monarch** 232102, roan, born May 10, bred by J. D. Taylor & Son, Gilts, Crosby Ravensworth; *s.* Pearl's Masterpiece 218077, *d.* 68241 Carbine Gem *by* Rose's Pride 175642.

929 **III. (£5.)**—Joseph Barnes, Barngh Syke, Wigton, Cumberland, for **Harberwain Ore** 230721, roan, born Feb. 19, bred by J. Robson, Harberwain, Shap, Westmorland; *s.* Olive's Gift 183620, *d.* 54307 Rose Lady 4th *by* Democrat 148385.

935 **IV. (£4.)**—E. McGregor, Manor Farm, Lillington, Leamington Spa, for **Guard's Brigade** 230632, roan, born Feb. 17, bred by J. Millican, Trees Farm, Newton Arlosh, Kirkbride; *s.* Harberwain Peer 207982, *d.* 65110 Sylvan Duchess *by* Leeming Rambler 173390.

930 **V. (£3.)**—Henry Bickford, Standeford, Four Ashes, Wolverhampton, for **Standeford Dollar 94th** 233707, roan, born Oct. 13; *s.* Standeford Dollar 77th 219320, *d.* 58429 Standeford Dolly 101st *by* Standeford Dollar 58th 194302.

933 **R. N.**—F. S. Francis, Wilkinthroop Farm, Templecombe, for **Seaplane.**
H. C.—938. **C.**—939.

934, 1005, 1048 **Cup.[2]**—Sir William Hicking, Bart., for **Brackenhurst Red Prince, Brackenhurst Jean** and **Debden Rose.**

Class 138.—*Dairy Shorthorn Bulls, born on or between January* 1 *and March* 31, 1929.

948 **I. (£15, & Special.[3])**—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, for **Underley Prince George,** roan, born March 9, bred by Lord Henry C. Bentinck, Underley Hall, Kirkby Lonsdale; *s.* Foxhill Royal Charles 189835, *d.* 58343 Underley Stella *by* Lingbird 164839.

947 **II. (£10.)**—Capt. the Rt. Hon. E. A. FitzRoy, M.P., Foxhill Cottage Farm, West Haddon, Rugby, for **Foxhill Lord Carl,** roan, born Jan. 30; *s.* Aldenham Lord Kirklevington 212843, *d.* 48638 Foxhill Lady Carl *by* Foxhill Wild Thought 163355.

945 **III. (£5.)**—D. Constantine & Son, Ltd., Breightmet Fold Farm, Ainsworth, Bolton, for **Seraphina Masterpiece,** roan, born Jan. 3, bred by T. Carrick, Scales, Greystoke, Penrith; *s.* Pearl's Matchmaker 210183, *d.* 90287 Seraphina Edith *by* Stainton Kingfisher 194296.

954 **IV. (£4.)**—The Marquess of Zetland, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks, for **Aske Landsman 2nd,** dark roan, born Jan. 8, bred by Exhibitor; *s.* Sizergh Defender 219180, *d.* 66024 Lammas Fairy *by* Clansman 162181.

953 **V. (£3.)**—W. E. Stamer, Pentreheylin, Dudleston Heath, Ellesmere, for **Rednal Frosty,** roan, born Feb. 22, bred by Lt.-Col. R. Mostyn Owen, Woodhouse, Oswestry; *s.* Lingbird 164839, *d.* 42180 Laurestina 177th *by* Sir Douglas 159436.

951 **R. N.**—J. W. Pickering, Mousley House, Hatton, Warwick, for **Thrimby Victor.**
H. C.—949. **C.**—952.

Class 139.—*Dairy Shorthorn Bulls, born on or between April* 1 *and June* 30, 1929.[4]

956 **I. (£15.)**—Lord Henry C. Bentinck, Underley Hall, Kirkby Lonsdale, for **Underley Lord Grey,** red, born June 27; *s.* Seraphina's Warrior 145361, *d.* 66999 Sybil Grey *by* Leeming Politician 173389.

964 **II. (£10.)**—J. R. Lawson, Stanley House Farm, Weeton, Preston, for **Wesham Surprise,** white, born April 22; *s.* Fylde Butterfly 2nd 171765, *d.* 53 Seraphina Snowdrop *by* Lord Ruby 137695.

974 **III. (£5.)**—The Marquess of Zetland, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks, for **Aske Waterloo 2nd,** red, born June 21; *s.* Sizergh Defender 219180, *d.* 67901 Waterloo Lily *by* Pins and Needles 174837.

966 **IV. (£4.)**—E. Macintosh, Boxhill Farm, Dorking, for **Foxbury Wild Prince 11th,** dark roan, born April 21; *s.* Foxbury Wild Prince 198761, *d.* 76519 Foxbury Kirklevington *by* Cotlands Lord Fawsley 2nd 162475.

958 **V. (£3.)**—Albert C. Brown, The Gables, Fernhill Heath, Worcester, for **Wildham Snowcloud,** roan, born April 26, bred by H. S. Horne, East Marden, Chichester; *s.* Brent Barrington Snowstorm 205361, *d.* 50716 Iwerne Georgiana *by* Kelmscott Conjuror 19th 143185.

973 **R. N.**—Capt. D. M. Wills, Barley Wood, Wrington, Somerset, for **Barleywood Scarlet Runner.**
H. C.—965. **C.**—961, 963, 969, 970, 971.

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[1] Champion Prize of £10 given by the Dairy Shorthorn Association for the best Bull.

[2] The "Grendon" Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of one Bull and two Cows or Heifers. Two at least of the animals must have been bred by the Exhibitor.

[3] Special Prize of £10 given by the Dairy Shorthorn Association for the best Bull in Classes 138 to 140. The following cows in the pedigree of the Bull to be registered, or provisionally accepted for registration, as qualified cows in the Dairy Shorthorn Association's Register: (1) the sire's dam and her dam, (2) the dam and her dam, and (3) the dam of the dam's sire.

[4] Prizes, except Fourth and Fifth, given by the Dairy Shorthorn Association.

Class 140.—*Dairy Shorthorn Bulls, born on or between July* 1 *and December* 31, 1929.

987 I. (£15, & R. N. for Special[1].)—A. H. W. Osborne & Sons, Branch Farm, Mells, Frome, for **Bricklington Wanderer 2nd**, dark roan, born July 2; *s.* Foxhill Wild Hope 215655, *d* 32592 Babraham Foremost 4th *by* Lord Lee 2nd 121257.

988 II. (£10.)—Dr. Alfred Palmer, Wokefield Park, Mortimer, for **Wokefield Lancer**, born July 3; *s.* Wokefield Trojan 227454, *d.* 89531 Wokefield Lemon 8th *by* Kelmscott Conjuror 60th 181980.

991 III. (£5.)—R. Silcock & Sons, Ltd., Thornton Hall Farm, Thornton-le-Fylde, Lancs, for **Fylde Count**, red roan, born Aug. 9; *s.* Grendon Crest 190228, *d.* 21610 Millbeck Countess *by* Vain Rosette 146078.

984 IV. (£4.)—Miss Isobel Heap, Lilies, Aylesbury, for **Diamond Carlos**, red and little white, born Aug. 24; *s.* Foxhill Charles Brilliant 207412, *d.* 21400 Cottesbrooke Ruth *by* Combebank Foundation Stone 135842.

998 V. (£3.)—Capt. Arnold S. Wills, Thornby Hall, Northampton, for **Thornby Lord Foggathorpe 16th**, dark roan, born July 23; *s.* Sorbrook Foggathorpe Premier 2nd 211562, *d.* 81467 Thornby Foggathorpe 25th *by* Thornby Royal Cran 185653.

980 R. N.—Debenham & Tory, Anderson, Blandford, for **Anderson Imperial Bates 3rd.**

H. C.—979. C.—976, 990, 997, 999.

990, 1026, 1056 R. N. for Cup.[2]—P. R. L. Savill, for **Copsale Wild King, Copsale Maid** and **Pinkneys Tulip 5th.**

Class 141.—*Dairy Shorthorn Cows, in-milk, born on or before March* 31, 1924, *having yielded a minimum of* 8,000 *lb. of milk during a lactation period of* 315 *days.*[3]

1005 I. (£15, & R. N. for Champion.)[4]—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, for 49994 **Brackenhurst Jean**, white, born June 21, 1923, calved May 25, 1930; *s.* Royal Ringleader 166746, *d.* 1030 Grendon Jeanie *by* Lord Nottingham 116317

1017 II. (£10.)—H. Percy Mortimer, Kingsley Windmill, by Warrington, for **Lambrigg Belle 2nd** (Vol. 65, p. 1155), roan, born Sept. 6, 1918, calved June 16, 1930, bred by J. Todd, The Green, Lambrigg, Kendal; *s.* Thornship Stamp 139701, *d.* Lambrigg Belle *by* Matchless Prince 121494.

1012 III. (£5.)—E. McGregor, Manor Farm, Lillington, Leamington Spa, for 50946 **Lady Jean 2nd**, roan, born March 24, 1923, calved May 27, 1930, bred by J. S. and G. Johnston, Belmont, Carlisle; *s.* Goldsmith 163679, *d.* 4598 Jean *by* Waterman 146234.

1013 IV. (£4.)—Sir Edward Mann, Bart., Thelveton Hall, Diss, for 46286 **Grendon Wild Eyes**, roan, born Nov. 21, 1923, calved May 27, 1930, bred by H. A. Brown, Grendon, Atherstone; *s.* Lord Nottingham 116317, *d.* 1040 Peggy Wild Eyes *by* Yeldersley Prince George 123741.

1010 V. (£3.)—Alfred Luckin, Orfold, Wisborough Green, Sussex, for 51713 **Orfold Fancy 13th**, roan, born Dec. 5, 1923, calved June 15, 1930; *s.* Orfold Linksman 2nd 150892, *d.* 5159 Orfold Fancy 11th *by* Loobagh Beau 126553.

1015 R. N.—Sir Edward Mann, Bart., for **Odell Duchess.**

H. C.—1016.

1005, 1023, 1048 Cup.[5]—Sir William Hicking, Bart., for **Brackenhurst Jean, Martley Barrington** and **Debden Rose.**

1012, 1034, 1035 R. N. for Cup.[5]—E. McGregor, for **Lady Jean 2nd, Fairy Wild Eyes 2nd** and **Honeysuckle 4th.**

Class 142.—*Dairy Shorthorn Cows, in-milk, born on or between April* 1, 1924, *and March* 31, 1925, *having yielded a minimum of* 8,000 *lb. of milk during a lactation period of* 315 *days.*

1028 I. (£15.)—R. Silcock & Sons, Ltd., Thornton Hall Farm, Thornton-le-Fylde, Lancs, for 75084 **Thrimby Peggy 3rd**, roan, born March 30, 1925, calved June 15, 1930, bred by H. Holme & Sons, Thrimby, Penrith; *s.* Gaiety Duke 171794, *d.* White Socks Nance *by* First Lord 115403.

1026 II. (£10.)—P. R. L. Savill, Welford Grange, Welford, Rugby, for 67265 **Copsale Maid**, red, born May 2, 1924, calved June 14, 1930; *s.* Histon Wild Prince 3rd 172496, *d.* Darlington Maid 9th *by* Barrington Chief 134987.

1020 III. (£5.)—W. Curtis & Son, Berwick Manor, Rainham, Essex, for 60040 **Rainham Barrington**, red, born Nov. 23, 1924, calved May 13, 1930, bred by W. Curtis, Berwick Manor, Rainham; *s.* Longhills Price 173570, *d.* 16217 Christmas Barrington *by* Duke of Batchworth 3rd 148529.

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[1] Special Prize of £10 given by the Dairy Shorthorn Association for the best Bull in Classes 138 to 140. The following cows in the pedigree of the Bull to be registered, or provisionally accepted for registration, as qualified cows in the Dairy Shorthorn Association's Register: (1) the sire's dam and her dam, (2) the dam and her dam, and (3) the dam of the dam's sire.

[2] The "Grendon" Silver Challenge Cup given through the Dairy Shorthorn Association for the best Group of one Bull and two Cows or Heifers. Two at least of the Animals must have been bred by the Exhibitor.

[3] Prizes, except Fourth and Fifth, given by the Shorthorn Society.

[4] Champion Prize of £10, given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Dairy Shorthorn Cow.

[5] Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of three Cows or Heifers.

1023 **IV. (£4.)**—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, for 80731 **Martley Barrington**, roan, born Feb. 21, 1925, calved June 11, 1930, bred by P. C. Vestey, Easton Park, Wickham Market, Suffolk; *s.* Anderson Conjuror 9th 177752, *d.* 8404 Hastoe Barrington 6th *by* Loobagh Beau 2nd 131987.

1022 **R. N.**—Edmond Hall, Torrisholme Hall, Morecambe, Lancs, for **Beaumont Mary 3rd.**

Class 143.—*Dairy Shorthorn Cows, in-milk, born on or between April* 1, 1925, *and March* 31, 1926, *having yielded a minimum of* 6,500 *lb. of milk during a lactation period of* 315 *days.*

1029 **I. (£15.)**—Lord Henry C. Bentinck, Underley Hall, Kirkby Lonsdale, for 90530 **Pearl Roseleaf,** dark roan, born Feb. 4, 1926, calved June 9, 1930, bred by M. and M. J. Robson, Harberwain, Shap; *s.* Harberwain Marksman 199302, *d.* 29488 Pearl Dairymaid *by* Democrat 148385.

1034 **II. (£10.)**—E. McGregor, Manor Farm, Lillington, Leamington Spa, for 80327 **Fairy Wild Eyes 2nd,** roan, born June 7, 1925, calved June 19, 1930, bred by J. Thomlinson, Houghton, Carlisle; *s.* Trilby King 176093, *d.* 43314 Fairy Wild Eyes *by* Wild Eyes Signet 163071.

1040 **III. (£5.)**—Mark Walker, College Farm, Hothersall, Longridge, Preston, for 80809 **Hothersall Rosamond,** roan, born Nov. 4, 1925, calved June 9, 1930; *s.* Penwortham Butterfly Prince 192756, *d.* Rosamond *by* Searchlight 159242.

1032 **IV. (£4.)**—Daniel Jopson, Ormathwaite Hall, Keswick, Cumberland, for 83561 **Red Rose Lady,** red, born March 9, 1926, calved May 26, 1930, bred by Matthew Carr, Bunker Hill, Alston; *s.* Olives Gift 183620, *d.* 17618 Rose Lady 2nd *by* Recorder 144767.

1035 **V. (£3.)**—E. McGregor, for 76756 **Honeysuckle 4th,** red and white, born Oct. 4, 1925, calved June 16, 1930, bred by J. H. Mandale & Sons, Blake Beck, Troutbeck, Penrith; *s.* Stainton King Fisher 194296, *d.* 40589 Honeysuckle 3rd *by* Royal Rosette 159088.

1030 **R. N.**—Mrs. G. Finch Dawson, Burwain Hall, King's Meaburn, Penrith, for **Burwain Flower Princess.**

Class 144.—*Dairy Shorthorn Cows or Heifers, in-milk, born on or after April* 1, 1926.

1048 **I. (£15, & Champion.[1])**—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, for 90360 **Debden Rose,** red roan, born June 27, 1926, calved April 12, 1930, bred by Major W. P. Robertson, Deans Farm, Debden, Saffron Walden; *s.* Rushcourt Bandit 2nd 202534, *d.* 66836 Debden Flashy Rose *by* Flashlight 163292.

1056 **II. (£10.)**—P. R. L. Savill, Welford Grange, Welford, Rugby, for 85208 **Pinkneys Tulip 5th,** roan, born June 1, 1926, calved June 25, 1930, bred by F. T. Fisher, Pinkneys Green, Maidenhead; *s.* Checkendon Bandmaster 188353, *d.* 27594 Colescombe Tulip *by* Colescombe Graceful Lad 154898.

1049 **III. (£5.)**—Kidner Bros., Stoke Holy Cross, Norwich, for 87460 **Stokelycross Cherryblossom 5th,** red, born May 2, 1926, calved June 20, 1930; *s.* Lord Leicester 20th 182715, *d.* Gilmorton Cherry 3rd *by* Gilmorton Lad 131183.

1042 **IV. (£4.)**—W. R. C. Ashby, Fen Pond Farm, Ightham, Kent, for 92101 **Greattew Darling 2nd,** red and little white, born Sept. 9, 1926, calved June 30, 1930, bred by Ralph Tustian, The Leys, Great Tew, Oxon; *s.* Sorbrook Clarence 194218, *d.* Greattew Darling *by* Rickerscote Pimpernel 158806.

1068 **V. (£3.)**—Capt. Arnold S. Wills, Thornby Hall, Northampton, for 92912 **Thornby Ringlet 12th,** roan, born Sept. 15, 1926, calved June 16, 1930; *s.* Thornby Royal Cran 185653, *d.* 57054 Thornby Ringlet 8th *by* Thornby Dauntless Dairyman 152537.

1043 **R. N.**—Lt.-Col. E. C. Atkins, Stretton House, Stretton Baskerville, Hinckley, for **Borwick Rosamond.**

H. C.—1062, 1067. **C.**—1069.

1065, 1066, 1067 **Cup.[2]**—The Duke of Westminster, G.C.V.O., D.S.O., for **Eaton Dairymaid 3rd, Eaton Princess Gift 5th and Eaton Rosalind 4th.**

Class 145.—*Dairy Shorthorn Heifers, in-milk to first calving, born on or after April* 1, 1927.[3]

1073 **I. (£15.)**—Sir Mark Collet, Bart., St. Clere, Kemsing, Sevenoaks, for 96859 **Glorious 2nd,** roan, born Sept. 10, 1927, calved May 25, 1930, bred by Freeman & Carter, Dorcas Grange Farm, Stoke Hammond, Bucks; *s.* Whistlow Jove 212474, *d.* 46227 Whistlow Glorious 2nd *by* Lodestar 143617.

1083 **II. (£10.)**—Lawrence Hignett, Hook End Farm, Checkendon, Reading, for 97769 **Checkendon Lady Barrington,** red and little white, born Sept. 3, 1927, calved June 5, 1930; *s.* Ashe Wild Prince 3rd 204565, *d.* 54267 Barrington Lucy *by* Cressida's Pride 162536.

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[1] Champion Prize of £10, given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Dairy Shorthorn Cow.

[2] Perpetual Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of three Cows or Heifers, by the same sire. A small replica of the Cup will be given to the owner of the winning sire, and £1 to the owner of each animal in the winning group. The sire must be living in the British Isles, and have produced living progeny in 1930.

[3] Prizes, except Fourth and Fifth, given by the Dairy Shorthorn Society.

1086 **III. (£5.)**—J. PIERPONT MORGAN, Wall Hall, Watford, for 100019 **Aldenham Duchess**, dark roan, born Sept. 26, 1927, calved June 18, 1930; *s.* Aldenham Kirklevington Duke 2nd 204357, *d.* 67463 Northey Duchess *by* Grand Duke 29th 163727.

1080 **IV. (£4.)**—J. ONSLOW FANE, Steventon Manor, Hants, for 98696 **Ithells Bracelet 2nd**, white, born Sept. 19, 1927, calved May 15, 1930, bred by T. King, Wotton-under-Edge, Glos.; *s.* Somerford Roan Knight 211546, *d.* 28278 Wick Bracelet *by* Longhills Graduate 143629.

1094 **V. (£3.)**—EUSTACE ABEL SMITH, Longhills, Lincoln, for 102035 **Longhills Belle 4th**, red and little white, born May 16, 1927, calved April 4, 1930; *s.* Sorbrook Summertime 194227, *d.* 55066 Longhills Belle 3rd *by* Longhills Musician 173569.

1103 **R. N.**—THE MARQUESS OF ZETLAND, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks, for **Lacy Ringlet 86th.**

C.—1074.

Lincolnshire Red Shorthorns.

Class 146.—*Lincolnshire Red Shorthorn Bulls, born in or before* 1928.

1110 **I. (£15, & Champion.[1])**—E. S. TANSLEY, Huttoft Bank, Alford, Lincs, for **Anwick Exchequer** 23424, born March 12, 1928, bred by the late Charles Bembridge, Walcot, Lincs; *s.* Chetwode Kim 20167, *d.* Anwick No. 23 *by* Scampton Vici 16896.

1106 **II. (£10, & R. N. for Champion.[1])**—W. A. BUCHANAN, The Hollies, Watnall, Nottingham, for **Melton Reformer** 23891, born Dec. 29, 1927, bred by J. B. Riggall, Melton Ross, Barnetby; *s.* Anderby Red Pole 15112, *d.* Melton Rouge 11th *by* Langton Grange King 16646.

1104 **III. (£5.)**—ALLEN & ORR, LTD., Owlcotes Farm, Heath, Chesterfield, for **Cockerington Normanby 12th** 22832, born Oct. 28, 1926, bred by J. W. Needham & Sons, South Cockerington; *s.* Petwood Normanby 19700, *d.* Cockerington No. 12 *by* Cockerington Grainthorpe 16287.

1105 **R. N.**—MAJOR H. A. BIRKBECK, M.C., Westacre High House, Castleacre, King's Lynn, for **Soigneé Oscar.**

H. C.—1108.

Class 147.—*Lincolnshire Red Shorthorn Bulls, born in* 1929.

1116 **I. (£15.)**—BUTLER SMITH, The Fields, Cropwell Butler, Nottingham, for **Cropwell Ajax**, born March 19; *s.* Cropwell Prince 20229, *d.* Harlaxton Excellence *by* Cockerington Anderby 16282.

1112 **II. (£10.)**—W. GRANT, Skinnand Manor, Navenby, Lincoln, for **Welbourn Champion 2nd** 24939, born March 23, bred by Robert Chatterton, Welbourn Hall, Lincoln; *s.* Welbourn Champion 24212, *d.* Wainfleet Redlan *by* Tealby No. 329 14000.

1113 **III. (£5.)**—WILLIAM A. HARRISON, The Lower Lodge, Harlaxton, Grantham, for **Harlaxton Jubilant**, born June 4; *s.* Algarkirk Harlaxton 22671, *d.* Harlaxton Etiquette *by* Cockerington Anderby 16282.

1114 **R. N.**—J. H. ROBINSON, Anderby, Alford, Lincs, for **Tealby No. 1568.**

Class 148.—*Lincolnshire Red Shorthorn Cows or Heifers, in-milk, born in or before* 1927.[2]

1122 **I. (£15, & R. N. for Champion.[3])**—E. S. TANSLEY, Huttoft Bank, Alford, Lincs, for **Beacon Hill Agnes 1st** (vol. 32, p. 421), born April 2, 1926, calved Jan. 13, 1930, bred by Col. C. de Paravicini, Birkholme Manor, Corby, Lincs; *s.* Cockerington Anderby 16282, *d.* Beacon Hill Lily *by* Croxton Ruby 63rd 11482.

1120 **II. (£10.)**—BUTLER SMITH, The Fields, Cropwell Butler, Nottingham, for **Cropwell Violet 2nd** (vol. 33, p. 408), born Feb. 7, 1927, calved March 13, 1930; *s.* Cropwell Prince 20229, *d.* Cropwell Violet *by* Harlaxton Balancer 17603.

1119 **III. (£5.)**—COL. THE RT. HON. JOHN GRETTON, M.P., Stapleford Park, Melton Mowbray, for **Stapleford Pink 2nd** (vol. 31, p. 364), born April 17, 1924, calved Sept. 24, 1929; *s.* Wolferton Ruler 17157, *d.* Scothern Pink *by* William of Hallington 10362.

1117 **R. N.**—HIS MAJESTY THE KING, Sandringham, Norfolk, for **Harrington Angela.**

Class 149.—*Lincolnshire Red Shorthorn Cows, in-milk, born in or before* 1925, *showing the best milking properties.*

1126 **I. (£15, & Champion.[4])**—JOHN EVENS & SON, Burton, Lincoln, for **Burton Jewess 5th** (Vol. 30, p. 355), born Oct. 17, 1923, calved June 2, 1930; *s.* Petwood Giant 17872, *d.* Burton Jewess *by* Priory Knight 11858.

1127 **II. (£10.)**—FRANK SAINSBURY, Blunt's Hall, Little Wratting, Haverhill, for **Scothern Charm**, born Aug. 14, 1922, calved June 19, 1930, bred by B. G. Bowser, Scothern Manor, Lincoln; *s.* Raithby Parrol 16802, *d.* *by* Harpswell Viscount 8327.

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[1] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Bull.

[2] Prizes given by the Lincolnshire Red Shorthorn Association.

[3] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Female other than Dairy type.

[4] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Female of Dairy type.

1124 **III. (£5.)**—John Evens & Son, for **Burton Fillpail 8th** (Vol. 33, p. 300), born June 18, 1925, calved May 30, 1930; *s.* Burton Diligence 2nd 19201, *d.* Burton Fillpail 6th *by* Burton Gordon 11397.

1125 **R. N.**—John Evens & Son, for **Burton Irene 2nd.**

Class 150.—*Lincolnshire Red Shorthorn Cows or Heifers, in-milk, born in or after* 1926, *showing the best milking properties.*[1]

1130 **I. (£15, & R. N. for Champion.[2])**—John Evens & Son, Burton, Lincoln, for **Burton Amy 14th** (Vol. 34, p. 269), born June 22, 1926, calved April 22, 1930; *s.* Burton Diligence 2nd 19201, *d.* Burton Amy 10th *by* Bendish Burton 5th 13207.

1131 **II. (£10.)**—John Evens & Son, for **Burton Venus 12th** (Vol. 34, p. 271), born May 27, 1926, calved May 4, 1930; *s.* Burton Ruby King 5th 20142, *d.* Burton Venus 1st *by* Rhode Juggler 144894.

1132 **III. (£5.)**—Russell Wood, Bendish House, Hitchin, Herts, for **Bendish Queen 4th** (Vol. 34, p. 394), born March 7, 1927, calved May 17, 1930; *s.* Histon Dairyman 14th 20409, *d.* Langford Queen 5th *by* Burton Tim 11409.

Class 151.—*Lincolnshire Red Shorthorn Heifers, born in* 1928.

1141 **I. (£15, & Champion.[3])**—Butler Smith, The Fields, Cropwell Butler, Nottingham, for **Cropwell Violet 3rd** (Vol. 34, p. 367), born Feb. 23; *s.* Cropwell Prince 20229, *d.* Cropwell Violet *by* Harlaxton Balancer 17603.

1136 **II .(£10.)**—W. Grant, Skinnand Manor, Navenby, Lincs, for **Beacon Hill Floweret 2nd** (Vol. 34, p. 339), born March 1, bred by Col C. de Paravicini, Birkholme Manor. Corby, Lincs; *s.* Threekingham Talisman 23321, *d.* Beacon Hill Kana *by* Cockerington Anderby

1140 **III. (£5.)**—J. A. Marsden Popple, Daneshill, Stevenage, for **Beacon Hill Dina 2nd** (Vol. 35, p. 359), born March 9, bred by Col. C. de Paravicini, Birkholme Manor, Corby, Lincs; *s.* Anwick Victor 7th 19121, *d.* Beacon Hill Dina *by* Cockerington Anderby 16282.

1135 **R. N.**—H. Gore Browne, Broom Briggs, Woodhouse Eaves, Loughborough, for **Broombriggs Selina.**

H. C.—1133, 1134.

Class 152.—*Lincolnshire Red Shorthorn Heifers, born in* 1929.

1145 **I. (£15.)**—E. S. Tansley, Huttoft Bank, Alford, Lincs, for **Poolham Queenie,** born Jan. 20, bred by J. W. Bell, Poolham, Horncastle; *s.* Poolham Sovereign 23120, *d.* Poolham Mignonette (Vol. 32, p. 259) *by* Kirmington Ruby King 55th 15585.

1144 **II. (£10.)**—William A. Harrison, The Lower Lodge, Harlaxton, Grantham, for **Harlaxton Julia,** born June 23; *s.* Algarkirk Harlaxton 22671, *d.* Harlaxton Glossy *by* Harlaxton Premier 20383.

1146 **III. (£5.)**—E. S. Tansley, for **Seaholm Charm,** born March 31 *s.* Anwick Accurate 21848, *d.* Tothill Ormsby 7th (Vol. 33, p. 416) *by* Melton Lodestar 18727.

1142 **R. N.**—His Majesty The King, Sandringham, Norfolk, for **Wolferton Tea Rose 10th.**

Red Polls.

Class 158.—*Red Poll Bulls, born in or before* 1927.

1148 **I. (£15, & Champion.[4])**—Mrs. C. N. Dyer, Hyders, Crawley, for **Ashmoor Alert** 13284, born March 20, 1923, bred by A. Carlyle Smith, Woodbridge; *s.* Davyson 363rd 11926, *d.* 25448 Ashmoor Vi *by* Emperor 10410.

1151 **II. (£10, & R. N. for Champion.[4])**—J. N. Kendall, Brimsfield Park, Gloucester, for **Brimsfield Barrister** 14456, born Feb. 6, 1927; *s.* Necton Minister 13880, *d.* 34802 Sporle Rapacity *by* Sudbourne Sandy 12460.

1152 **III. (£5.)**—The Earl of Stradbroke, Henham Hall, Wangford, Suffolk, for **Henham Rajah** 14935, born March 21, 1927; *s.* Hutton Assessor 13067, *d.* 28863 Henham Sweet Pear *by* Henham Dairyman 10575.

1149 **R. N.**—Col. J. E. G. Groves, Deans Green Hall, Lymm, Cheshire, for **Hardwick Alert.**

H. C.—1150, 1153.

Class 159.—*Red Poll Bulls, born in* 1928.

1159 **I. (£15.)**—Capt. R. S. Hall, New Hall, Tendring, Clacton-on-Sea, for **Bromley Champagne** 14832, born April 14, bred by the late Percy Crossman, Great Bromley Hall, Essex; *s.* Framlingham Champagne 13738, *d.* 30247 Necton Desdemona *by* Marham Armistice 11410.

1154 **II. (£10.)**—Lt.-Col. R. C. Batt, C.B.E., M.V.O., Gresham Hall, Norwich, for **Gresham Magnet,** born April 5; *s.* Bredfield Darius 2nd 12942, *d.* 34018 Gresham Mayfly *by* Basildon Royal 11882.

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[1] Prizes given by the Lincolnshire Red Shorthorn Society.

[2] Champion Silver Cup given by the Lincolnshire Red Shorthorn Society for the best Female of Dairy type.

[3] Champion Silver Cup given by the Lincolnshire Red Shorthorn Society for the best Female other than Dairy type.

[4] Champion Prize of £5 given by the Red Poll Cattle Society for the best Bull.

1160 III. (£5.)—Col. G. H. Mytton, Chadlington Downs, Chipping Norton, for **Garth Fabulist**, born April 6; *s.* Hatton Fabulist 11985, *d.* 30507 Sudbourne Tulip *by* Sudbourne Crimson 11222.

1161 IV. (£4.)—Stuart Paul, Kirton Lodge, Ipswich, for **Kirton Pirate**, born July 15, bred by the late W. F. Paul, Kirton Lodge, Ipswich; *s.* Bredfield Pedlar 13313, *d.* 25200 Kirton May *by* Letton Romney 10438.

1163 V. (£3.)—Owen H. Smith, Langham, Oakham, for **Ranksborough Saducee** 15097, born July 17; *s.* Ranksborough Assessor 14292, *d.* 34979 Upton Sadie *by* Wykham Stormer 12482

1165 R. N.—Gerald E. F. Tenison, Overbury Hall, Layham, Suffolk, for **Kirton Scot.**

Class 160.—*Red Poll Bulls, born in* 1929.

1174 I. (£15.)—Sir Herbert Hambling, Bart., Rookery Park, Yoxford, Suffolk, for **Yoxford Paymaster** 15556 born April 9; *s.* Yoxford Challenger 14389, *d.* 31342 Knepp Passion 5th *by* Knepp Crown 11162.

1169 II. (£10.)—P. A Bayman, Letheringham Abbey, Woodbridge, for **Wanstead Albion** 15308, born Jan 3; *s.* Wanstead Davyson 14855, *d.* 36756 Wanstead Lady 3rd *by* Easton Adamant 12278.

1172 III. (£5.)—John George Gray, Rosehill, Coventry, for **Abbeycombe Esparto** 15195, born Jan. 8; *s.* Abbeycombe Bixa, *d.* 38586 Upton Susan *by* Hatton Fabulist 11985.

1175 IV. (£4.)—Stuart Paul, Kirton Lodge, Ipswich, for **Wissett Clinker 4th** 15545, born March 23, bred by Walter Scrimgeour, Wissett Hall, Halesworth; *s.* Harefield Clinker 11000, *d.* 33405 Wissett Daphne *by* Melton Monk 11739.

1176 V. (£3.)—Capt. Alan Richardson, Seven Springs, Cheltenham, for **Seven Springs Quebec** 15473, born June 11; *s.* Sudbourne Loyalist 11814, *d.* 30380 Seven Springs Quest *by* Harefield Clinker 11000.

1173 R. N.—Sir Herbert Hambling, Bart., for **Yoxford Conqueror.**

Class 161.—*Red Poll Cows, in-milk, born in or before* 1924.

1182 I. (£15, & Champion.[1])—Capt. Sir H. E. de Trafford, Bart., M.C., Newsells Park, Barkway, Royston, for 31320 **Kirton Patsy**, born June 23, 1922, calved April 2, 1930, bred by the late W. F. Paul, Kirton, Ipswich; *s.* Lichfield Victor 11406, *d.* 27947 Kirton Prize *by* Red Cross 11051.

1181 II. (£10, & R. N. for Champion.[1])—Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for 30130 **Knepp Prudence 4th**, born Sept. 6, 1921, calved March 31, 1930; *s.* Gressenhall Marquis 11342, *d.* 27063 Knepp Prudence *by* Sudbourne Crown 10803.

1190 III. (£5.)—John George Gray, Rosehill, Coventry, for 33525 **Basildon Beltine**, born Aug. 30, 1924, calved June 21, 1930, bred by Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading; *s.* Hanningford Conductor 12646, *d.* 30416 Southdown Beltine *by* Southdown Beelzebub 11787.

1192 IV. (£4.)—A. Preston Jones, Mickleover House, Derby, for 33976 **Gaddesby Ducky**, born Jan. 30, 1924, calved April 4, 1930, bred by Capt. J. O. Sherrard, Gaddesby Hall, Leics.; *s.* Sudbourne Loyalist 11814, *d.* 27164 Necton Darling *by* Sudbourne Crocus 10927.

1185 V. (£3.)—Mrs. M. M. FitzGerald, Marsden Manor, Cirencester, for 34449 **Marsden Mistake**, born Sept. 5, 1924, calved April 19, 1930; *s.* Marsden Matchbox 12741, *d.* 31272 Kentford Lucky 2nd *by* Knepp Grenadier 12038.

1187 R. N.—Mrs. R. M. Foot, White Hill, Berkhamsted, for **Basildon Rosemary 2nd.**

H. C.—1184, 1186. C.—1193, 1195.

Class 162.—*Red Poll Cows or Heifers, in-milk, born in* 1925, 1926 *or* 1927.[2]

1198 I. (£15.)—Mrs. M. M. FitzGerald, Marsden Manor, Cirencester, for 37998 **Marsden Mimulus**, born July 4, 1926, calved Feb. 2, 1930; *s.* Marsden Mars 13501, *d.* 32899 Marsden Musk Rose *by* Antwick Russett King 12203.

1201 II. (£10.)—Mrs. M. L. Griffith, Little Hallingbury Park, Bishop's Stortford, for 37526 **Grundisburgh Ruby**, born Sept. 30, 1926, calved March 10, 1930, bred by Lord Cranworth, Grundisburgh; *s.* Gresham Mainstay 13030, *d.* 30687 Assington Diamond *by* Melton Prosper 11940.

1204 III. (£5.)—A. Preston Jones, Mickleover House, Derby, for 38574 **Upton Enid**, born Jan. 21, 1926, calved May 25, 1930, bred by W. L. Horbury, Ditchford Farm, Moreton-in-Marsh; *s.* Hatton Fabulist 11985, *d.* 30251 Necton Emma *by* Sudbourne Croesus 10927.

1199 IV. (£4.)—John George Gray, Rosehill, Coventry, for 36358 **Polstead Prolific**, born Nov. 20, 1925, calved May 14, 1930, bred by M. F. Freeman-Richardson, Polstead, Colchester; *s.* Ferrymoor Ape 12603, *d.* 29177 Polstead Kate *by* Hun 2nd 11016.

1200 R. N.—Mrs. M. L. Griffith, for **Sotterley Whisper.**

H. C.—1202, 1203. C.—1197.

Class 163.—*Red Poll Heifers, born in* 1928.

1213 I. (£15.)—Sir Herbert Hambling, Bart, Rookery Park, Yoxford, Suffolk, for 42589 **Yoxford Mavis**, born June 1; *s.* Yoxford Challenger 14389, *d.* 30347 Royal Mavis *by* Royal Sunshine 11452.

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[1] Champion Prize of £5 given by the Red Poll Cattle Society for the best Cow or Heifer.

[2] Prizes, except Fourth, given by the Red Poll Cattle Society.

1210 **II. (£10.)**—S. W. Copley, Deacons Hill, Elstree, for 41208 **Deacons Kerrel 2nd,** born May 29; *s.* Longford Vervacious 13850, *d.* 28856 Helmingham Kerrell *by* Kerrison Foundation 11017.

1217 **III. (£5.)**—Col. G. H. Mytton, Chadlington Downs, Chipping Norton, for 41375 **Garth Sadie,** born March 14; *s.* Hatton Fabulist 11985, *d.* 27317 Sudbourne Sadie 2nd *by* Sudbourne Credit 10796.

1207 **IV. (£4.)**—His Majesty The King, Sandringham, Norfolk, for 42157 **Royal Lent Lily,** born Aug. 14; *s.* Royal Rambler 14298, *d.* 32960 Necton Daffodil *by* Marham Armistice 11410.

1211 **V. (£3.)**—Mrs. M. L. Griffith, Little Hallingbury Park, Bishop's Stortford, for 41509 **Heveningham Sunbeam,** born Jan. 8, bred by Lord Huntingfield, Heveningham, Suffolk; *s.* Yoxford Proud Prince 14392, *d.* 31581 Plumstead Shining Light *by* Colworth Berry 11291.

1209 **R. N.**—Lt.-Col. R. C. Batt, C.B.E., M.V.O., Gresham Hall, Norwich, for **Gresham Geisha Girl.**

H. C.—1214, 1218. **C.**—1208, 1212.

Class 164.—*Red Poll Heifers, born in* 1929.

1242 **I. (£15.)**—Owen H. Smith, Langham, Oakham, for 44129 **Sachel Ruby,** born Jan. 4, bred by W. McA. Houstun, Sachel Court, Alford, Billingshurst; *s.* Ashmoor Alert 13284, *d.* 31147 Hardwick Ruby *by* Hatton Fabian 11677.

1235 **II. (£10.)**—N. A. Heywood, Glevering Park, Wickham Market, Woodbridge, for 43341 **Glevering Nightingale,** born Jan. 1; *s.* Hallingbury Crossbow 13767, *d.* 37482 Glevering Owl *by* Easton Pilgrim Father 12597.

1236 **III. (£5.)**—N. A. Heywood, for 43344 **Glevering Snipe,** born Jan. 14; *s.* Hallingbury Crossbow 13767, *d.* 28621 Combs Crocus 3rd *by* Sudbourne Hero 11231.

1225 **IV. (£4.)**—S. W. Copley, Deacons Hill, Elstree, for 43130 **Deacons Beurre,** born April 27; *s.* Cotswold Flavius 13347, *d.* 32379 Duckyle Beurre *by* King Knepp of the Meadows 12039.

1243 **V. (£3.)**—Viscount Tredegar, Tredegar Park, Newport, Mon., for 44338 **Tredegar Guelder Rose,** born March 26; *s.* Tredegar Dauphin 14344, *d.* 34946 Tredegar Blush Rose *by* Ferrymore Flycatcher 12604.

1223 **R. N.**—Lt.-Col. Sir Merrik R. Burrell, Bart., C.B E, Knepp Castle Estate Office, Horsham, for **Knepp Bisto 4th.**

H. C.—1233, 1234. **C.**—1237, 1239.

Blue Albions.

Class 165.—*Blue Albion Bulls, born in or before* 1927.

1246 **I. (£15, & Champion.[1])**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Fearless** 1781, born April 16, 1927; *s.* Fernilee Fearless 303, *d.* Mount Pollie 5154.

1248 **II. (£10.)**—Randolph Tory, Charisworth Manor, Blandford, for **Cowleaze Champion** 1661, born Feb. 25, 1927, bred by Mrs. E. G. Tory, Charisworth, Blandford; *s.* Charisworth Blue Boy 933, *d.* Cliftonthorpe Lady 2nd 8524.

1245 **III. (£5.)**—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Broomhill Threshold** 499, born March 31, 1923, bred by Major Gerald Johnson, D.S.O., Foston, Derbyshire; *s.* Mountain King 81, *d.* Broomhill Amber 1072.

1247 **R. N.**—Arnold Gillett, Ridgewood, Chorley, Lancs, for **Stow Manners.**

Class 166.—*Blue Albion Bulls, born in* 1928.[2]

1250 **I. (£15, & R. N. for Champion.[1])**—W. E. Glover, The Shrubberies, Snarestone, Burton-on-Trent, for **Snarestone Jester** 1799, born May 29; *s.* Barton Jude 2nd 1188, *d.* Snarestone Faith 7024.

1249 **II. (£10.)**—Percy Dobson, Manor Farm, Ridgwardine, Market Drayton, for **Ridgwardine Raider 2nd** 1777, born Oct. 4; *s.* Ridgwardine Emperor 1559, *d.* Ridgwardine Damsel 6372.

1251 **III. (£5.)**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Goalkeeper 2nd** 1733, born June 22; *s.* Mount Goalkeeper 1049, *d.* Mount Kitty 5112.

Class 167.—*Blue Albion Bulls, born in* 1929.[2]

1257 **I. (£15.)**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Laddie,** born April 16; *s.* Mount Goalkeeper 1049, *d.* Mount Lassie 5116.

1255 **II. (£10.)**—E. H. A. Holbech, The Grange, Farnborough, Banbury, for **Farnborough Major,** born June 1; *s.* Pike Major 1329, *d.* Seagry Melody 6870.

1258 **III. (£5.)**—Randolph Tory, Charisworth Manor, Blandford, for **Charisworth Ruby 2nd,** born June 15; *s.* Cowleaze Champion 1661, *d.* Charisworth Polly 3298.

1253 **R. N.**—Percy Dobson, Manor Farm, Ridgwardine, Market Drayton, for **Ridgwardine Future Prince.**

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[1] Perpetual Silver Challenge Cup given by the Blue Albion Cattle Society for the best Bull.

[2] Prizes given by the Blue Albion Cattle Society

Class 168.—*Blue Albion Cows or Heifers, in-milk, born in or before* 1927.

1264 I. (£15, & Champion.[1])—Arnold Gillett, Ridgewood, Chorley, Lancs, for **Ringwood of Ridgewood**, age and breeder unknown, calved June 12, 1930.

1259 II. (£10.)—R. H. A. Holbech, The Grange, Farnborough, Banbury, for **Seagry Melody** 6870, age and breeder unknown, calved May 23, 1930.

1261 III. (£5.)—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Bank Enchantress** 10028, born Aug. 9, 1925, calved May 20, 1930, bred by G. W. Axe, Loxley, Uttoxeter; *s.* Elton Champion 585. *d.* Bank Torfrida 1764.

1260 R. N.—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Flossie of Winterbourne.**

H. C.—1265. C.—1262.

Class 169.—*Blue Albion Heifers, born in* 1928.

1269 I. (£15, & R. N. for Champion.[1])—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Parsley 2nd** 12142, born Jan. 17; *s.* Mount Goalkeeper 1049, *d.* Mount Parsley 5144.

1267 II. (£10.)—Percy Dobson, Manor Farm, Ridgwardine, Market Drayton, for **Ridgwardine Dora 2nd** 12268, born Jan. 22; *s.* Ridgwardine Victor 1093, *d.* Ridgwardine Dora 6404.

1266 III. (£5.)—John Bassett, Hill Top Farm, Ashover, Chesterfield, for **Asherblue Bluey** 11620, born April 1; *s.* Wingfield Clansman 1429, *d.* Asherblue Bell 1660 *by* Bradbourne Champion 27.

1268 R. N.—W. E. Glover, The Shrubberies, Snarestone, Burton-on-Trent, for **Burton Doris.**

Class 170.—*Blue Albion Heifers, born in* 1929.[2]

1271 I. (£15.)—R. H. A. Holbech, The Grange, Farnborough, Banbury, for **Farnborough Buttercup**, born Oct. 6; *s.* Pike Major 1329, *d.* Snowflake of Farnborough 375 S.R. *by* Mininglow Referee 657.

1272 II. (£10.)—R. H. A. Holbech, for **Farnborough Sunflower**, born Sept. 20; *s.* Pike Major 1329, *d.* Pike Magpie 8830 *by* Bradbourne Major 141.

1273 III. (£5.)—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Ethel 2nd**, born Jan. 8; *s.* Mount Goalkeeper 1049, *d.* Blackmore Ethel 2154.

1270 R. N.—John Bassett, Hill Top Farm, Ashover, Chesterfield, for **Asherblue Bell 2nd.**

British Friesians.

The letters F.R.S. after the number of an animal indicate that such animal is registered in the Friesch Rundvee Stamboek (Friesland Cattle Herd Book) Zwartebonte (Black and White) Section.

The letters F.H.B., S.A., after the number of an animal indicate that such animal is registered in the Friesland Herd Book, South Africa.

The letters S.A.S.B. after the name of an animal indicate that such animal is registered in the South African Stud Book.

The letters P.I. after the name of an animal indicate that such animal is of pure imported Friesian (Holland) or South African blood.

Unless otherwise stated the number refers to the British Friesian Herd Book.

Class 171.—*British Friesian Bulls, born in or before* 1927.

1281 I. (£15, & R. N. for Champion.[3])—Andrew Macaulay, Lathalmond Farm, Dunfermline, for **Seaton Cesar** 29841 P.I., born Jan. 24, 1925, bred by G. A. Francis, West Seaton, Arbroath; *s.* Dunninald Gaatsomairschaap 6175 P.I., *d.* Seaton (imp. 1922) Lady Beatty 66090 *by* Nels Rust Beatty 260 F.H.B., S.A.

1275 II. (£10.)—Alfred J. Creed, Goldicote, Stratford-on-Avon, for **Holyport Johcesar Series** 32935 P.I., born Jan. 4, 1927, bred by H. M. Martineau, Holyport, Maidenhead; *s.* Hedges Second Series 6427 P.I., *d.* Seaton Johanna 30858 P.I. *by* Dunninald (imp.) Cesar 2nd 3813.

1274 III. (£5.)—Viscount Cowdray, Cowdray Park, Midhurst, Sussex, for **Moordale Pioneer** 31563 P.I., born March 12, 1926, bred by the late Edward Hollingworth, C.B.E., Moordale, Dobcross, Yorks; *s.* Hache Buringa 25871 P.I., *d.* Moordale Maybloom 30048 P.I. *by* Garton (imp.) Bravo 3895.

1279 IV. (£4.)—Sir James Hill, Bart., Hexton Manor, Hitchin, for **Moordale Prince of Holland** 29373 P.I., born Oct. 26, 1925, bred by the late Edward Hollingworth, C.B.E., Moordale, Dobcross, Yorks; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Teelt 39264 P.I. *by* Tredegar (imp.) Prince of Holland 4579.

1282 R. N.—H. & B. Poole, Akenham Hall, Ipswich, and Hill House, Lawford, Essex, for **Lawford Garrick.**

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[1] Perpetual Silver Challenge Cup given by the Blue Albion Cattle Society for the best Cow or Heifer.

[2] Prizes given by the Blue Albion Cattle Society.

[3] Champion Prize of £10 given by the British Friesian Cattle Society for the best Bull.

Class 172.—*British Friesian Bulls, born on or between January* 1 *and June* 30, 1928.

1290 I. (£15.)—HAROLD TATLOW, Brome Hall, Lapworth, Birmingham, for **Balmachree Hugo** 33769, born June 1, bred by D. A. MacLennan, Balmachree, Inverness; *s.* Lochlands Rijper 29237 P.I., *d.* Balmachree Amelia 50400 *by* Seaton David 12683.

1288 II. (£10.)—MISS E. MARTIN SMITH, Grange Court, Portington, Eastrington, Howden, Yorks, for **Nunmonkton Haig** 34737, born June 5, bred by Mrs. E Harbord, Kirk Deighton Hall, Wetherby; *s.* Douneside Beatty 28357, *d.* Hedon Camouflage 62432 *by* Dunninald (imp.) Cesar 2nd 3813.

1286 III. (£5.)—G. H. HOLLINGWORTH, Sandhole Farm, off Thornham New Road, Rochdale, for **Moordale President** 34681, born March 24, bred bythe Exors. ot the late Edward Hollingworth, Moordale, Dobcross, Yorks; *s.* Hache Buringa 25871 P.I., *d.* Moordale Peggie's Johanna 74246 *by* Wigginton (imp.) Johan 4637.

1287 R. N.—PIDDINGTON (NORTHANTS) ESTATES, LTD., Horton, Northampton, for **Hache Festus.**

Class 173.—*British Friesian Bulls, born on or between July* 1 *and December* 31, 1928.

1297 I. (£15, Champion,[1] & Champion.[2])—TRUSTEES OF SIR ALASDAIR W. MACROBERT, BART., Douneside, Tarland, Aberdeenshire, for **Douneside Marcellus** 34163, born Oct 2; *s.* Douneside Pel Klaas 30901 P.I., *d.* Douneside Maris 92536 *by* Douneside Hatsumerschaap 13719 P.I.

1294 II. (£10.)—JOSEPH ILIFFE, Port House, Coventry Road, Hinckley, for **Progress King Bacchus** 34863, born Sept. 16; *s.* Hache Bacchus 25841 P.I., *d.* Buglawton Akrin Venetia 102128 *by* Clockhouse King Akrin 11321 P.I.

1295 III. (£5.)—TRUSTEES OF SIR ALASDAIR W. MACROBERT, BART., for **Douneside Hatlander** 34155 P.I., born Nov. 26; *s.* Lochlands Hollander 29235 P.I., *d.* Douneside Hatsumer 4th 104000 P.I. *by* Hache Apollo 22925 P.I.

1291 R. N.—ARTHUR ALLEN, The Manor, Chesterblade, Somerset, for **Vyne Drummer Boy.**

Class 174.—*British Friesian Bulls, born on or between January* 1 *and June* 30, 1929.[3]

1305 I. (£15.)—ERNEST B. HALL, Hales Hall, Market Drayton, for **Hales Burika**, born Jan. 20; *s.* Hache Buringa 25871 P.I., *d.* Gales Rika 2nd 105484 P.I. *by* Clockhouse King Akrin 11321 P.I.

1312 II. (£10.)—ERRINGTON ROSS, JUNR., Castleheather, Inverness, for **Parks Trigo**, born May 21, bred by D. F. Mackenzie, Parks, Inverness; *s.* Hales Africanus 22949 P.I., *d.* Parks Bess 97418 *by* Parks (imp. 1922) Marthus 3rd 21155.

1310 III. (£5.)—BERTRAM PARKINSON, Creskeld Hall, Arthington, Leeds, for **Creskeld Knierke's Beatty**, born Jan. 22; *s.* Northdean Meibloem's Beatty 26679 P.I., *d.* Creskeld (imp. 1922) Knierke 60390 *by* Bedford Pel Knol 2nd 471 S.A.S.B.

1303 IV. (£4.)—LORD GLENTANAR, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Barjouk**, born March 17; *s.* Glentanar Barlander 32765 P.I., *d.* Tyneside Joukje 111114 P.I. *by* Lochlands Rijpma's Hollander 20773 P.I.

1309 V. (£3.)—JOHN E. MOFFITT, East House, Dalton, Northumberland, for **Chellaston Karel 2nd**, born Jan. 2, bred by F. W. Gilbert, The Manor, Chellaston, Derby; *s.* Thurston Karel 3rd 32005 P.I., *d.* Ongar Weipkje 2nd 41114 P.I. *by* Wigginton Johan 7165 P.I.

1301 R. N.—LORD GLENTANAR, for **Glentanar Barion.**

Class 175.—*British Friesian Bulls, born on or between July* 1 *and December* 31, 1929.

1324 I. (£15, & R. N. for Champion.[2])—J. R. UPSON, Rush Court, Wallingford, for **Saracens Chief**, born July 6; *s.* Hache Burinze 25873 P.I., *d.* Northdean Ceres Myrtle 2nd 55602 *by* Dell Hollander 7655 P.I.

1321 II. (£10.)—C. C. SCHOLEFIELD, Willow Farm, Tadcaster, for **Austin Hollander**, born July 2; *s.* Lochlands Rijpma's Hollander 20773 P.I., *d.* Austin Gloxinia 89372 *by* Austin Vic Cesar 19211.

1314 III. (£5.)—LORD GLENTANAR, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Lothander**, born July 16; *s.* Glentanar Barlander 32765 P.I., *d.* Lothian Gentle 2nd 84588 *by* Lothian Foch 14735.

1315 IV. (£4.)—MRS. E. HARBORD, Kirk Deighton Hall, Wetherby, for **Nunmonkton Ideal**, born July 10; *s.* Northdean Hollander 2nd 21079 P.I., *d.* Nunmonkton Daffodil 85580 *by* Golf Vic's Ceres 17049 P.I.

1317 V. (£3.)—TRUSTEES OF SIR ALASDAIR W. MACROBERT, BART., Douneside, Tarland, Aberdeenshire, for **Douneside Marcellus 2nd**, born Nov. 12; *s.* Douneside Masterpiece 19835, *d.* Douneside Maris 92536 *by* Douneside Hatsumerschaap 13719 P.I.

1320 R. N.—DR. J. WITHEROW PITT, Burscough, Ormskirk, for **Parbold Rijpceres.**

H. C.—1316, 1318.

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[1] Champion Prize of £10 given by the British Friesian Cattle Society for the best Bull.

[2] The "Wobaston" Silver Challenge Cup, given through the British Friesian Cattle Society for the best Bull, bred by Exhibitor.

[3] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

Class 176.—*British Friesian Cows, in-milk, born in or before* 1924, *having yielded a minimum of* 8,000 *lb. of milk during a lactation period of* 315 *days.*

1326 **I.** **(£15.)**—Arthur Allen, The Manor, Chesterblade, Somerset, for **Glen Waiwera** 82144, born April 4, 1924, calved April 23, 1930; *s.* Kingswood Ynteseries 14531, *d* Glen Werribee 52964 *by* Dunninald Gaatsomairschaap 6175 P.I.

1332 **II.** **(£10.)**—George Gee, Mayford House, Mayford, Woking, for **Hache Belle** 82388, born April 8, 1924, calved June 24, 1930, bred by Hache Herd, Muntham Court, Findon; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Vespers 53102 *by* Clockhouse King Akrin 11321 P.I.

1331 **III.** **(£5.)**—Capt. H. Douglas, Smedley's Hydro Co., Ltd., Matlock, for **Lowhouse Pangirl** 73762, born March 9, 1923, calved June 13, 1930, bred by G. A. Jamieson, Armathwaite, Carlisle; *s.* Chaddesley Panboy 11267, *d.* Elmham Stella 38718 *by* Elmham Smuts 6209.

1330 **IV.** **(£4.)**—Capt. John Christie, M.C., Glyndebourne, Ringmer, Lewes, for **Glyndebourne Torch 5th** 82212, born Nov. 20, 1924, calved May 15, 1930; *s.* Glyndebourne (imp. 1922) Rikus 20111, *d.* Terling Torch 15th 36280 *by* Lavenham (imp.) Gysbrecht 4077.

1329 **V.** **(£3.)**—Capt. John Christie, M.C., for **Glyndebourne Rik Lettice** 82208, born July 27, 1924, calved June 16, 1930; *s.* Glyndebourne (imp. 1922) Rikus 20111, *d.* Teston Bles Lettice 49310 *by* Petygards (imp.) Bles Albert 4321.

1327 **R. N.**—E. G. Barton, Saundby, Retford, Notts, for **Chaddesley Hedge Rose 2nd.**

Class 177.—*British Friesian Cows, in-milk, born in* 1925 *or* 1926, *having yielded a minimum of* 6,500 *lb. of milk during a lactation period of* 315 *days.*[1]

1342 **I.** **(£15, & Champion.[2])**—Capt. John Christie, M.C., Glyndebourne, Ringmer, Lewes, for **Glyndebourne Elsie** 93626, born Jan. 27, 1925, calved May 16, 1930; *s.* Glyndebourne (imp. 1922) Rikus 20111, *d.* Moss Elsie 4th 40834 *by* Moss (imp.) Adema 49th 4223.

1347 **II.** **(£10.)**—Bertram Parkinson, Creskeld Hall, Arthington, Leeds, for **Creskeld Honeysuckle** 91804, born Sept. 16, 1925, calved June 6, 1930; *s.* Creskeld (imp. 1922) Chief 19709, *d.* Mapleton Honeysuckle 73958 *by* Mapleton (imp. 1922) Hilko 20907.

1348 **III.** **(£5.)**—Lord Rayleigh, Terling Place, Chelmsford, for **Terling Norah 20th** 99254, born Feb. 9, 1925, calved June 6, 1930; *s.* Terling (imp. 1922) Marthus 21533, *d.* Terling Norah 9th 42322 *by* Wiggington Johan 7165.

1344 **IV.** **(£4.)**—Major B. M. Edwards, M.C., Hardingham Hall, Norwich, for **Hardinghall Meibram** 105638, born Nov. 13, 1926, calved April 26, 1930; *s.* Northdean Hollander 4th 26675 P.I., *d.* Hardinghall Bramrinschaap 82642 *by* Douneside Hollander 2nd 16645. P.I.

1350 **R. N.**—J. R. Upson, Rush Court, Wallingford, for **Charndon Nancy.**

H. C.—1343, 1349.

Class 178.—*British Friesian Heifers, in-milk to first calving, born on or after January* 1, 1927.[1]

1353 **I.** **(£15, & R. N. for Champion.[2])**—Ethelbert Furness, Hamels Park, Buntingford, for **Blyth Elsie** 113102, born March 1, 1927, calved Feb. 19, 1930, bred by Lord Barnby, Blyth, Worksop; *s.* Hamels Froukje's Roland 22985 P.I., *d.* Crosbie Princess 60470 *by* Terling Donovan 8805.

1364 **II.** **(£10.)**—J. R. Upson, Rush Court, Wallingford, for **Saracens Familiar** 120950, born May 29, 1927, calved April 25, 1930; *s.* Northdean Meibleom's Beatty 26679 P.I., *d.* Northdean Familiar 74640 *by* Dell Hollander 7655 P.I.

1358 **III.** **(£5.)**—Clifford W. H. Glossop, The Lund Dairies, Bramwith, Doncaster, for **Lund Bleanchty's Margaret** 118788, born Jan. 26, 1927, calved Oct. 2, 1929; *s.* Lund Blanche's Beatty 26477 P.I., *d.* Chaddesden Magpie 10th 51384 *by* Chaddesden Darkie's Boy 9277.

1354 **IV.** **(£4.)**—George Gee, Mayford House, Mayford, Woking, for **Dutton Rinotis** 115554, born May 25, 1927, calved April 20, 1930, bred by A. Norman Dugdale, Dutton Manor, Longridge, Preston; *s.* Thurston Rinlod 27219 P.I., *d.* Thurston Karel Stephanotis 2nd 66880 *by* Kirkhill (imp.) Karel 2nd 4051.

1351 **V.** **(£3.)**—Capt. John Christie, M.C., Glyndebourne, Ringmer, Lewes, for **Glyndebourne Breeze 4th** 116508, born May 30, 1927, calved May 5, 1930; *s.* Hache Achilles 22919 P.I., *d.* Glyndebourne Breeze 2nd 82184 *by* Glyndebourne (imp. 1922) Rikus 20111.

1352 **R. N.**—Major B. M. Edwards, M.C., Hardingham Hall, Norwich, for **Hardinghall Dairymaid 4th.**

1353, 1379, 1380 **Cup.[3]**—Ethelbert Furness, for **Blyth Elsie, Hamels Keg o' Milk** and **Hamels Kerria.**

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[1] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

[2] Champion Prize of £10, given by the British Friesian Cattle Society for the best Cow or Heifer.

[3] Silver Challenge Cup given through the British Friesian Cattle Society for the best group of three Cows or Heifers.

Class 179.—*British Friesian Heifers, born on or between January* 1 *and June* 30, 1928.

1367 I. (£15.)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Marionette** 127232, born April 21; *s.* Lochlands Rijpmas Hollander 20773 P.I., *d.* Tyneside Marion 3rd 88262 *by* Wiggington Friesland 10829 P.I.

1368 II. (£10.)—Lord Glentanar, for **Glentanar Wanda** 127240, born Feb. 27; *s.* Commieston Betsecond Series 22371 P.I., *d.* Findlay Chance 71192 *by* Golf (imp.) Botermijn 3919.

1370 III. (£5.)—John Horridge, Plas Llanfair, Llanfair P.G., Anglesey, for **Llanfair Neeltje 3rd** 129224 P.I., born Jan. 13; *s.* Llanfair Paul 20735 P.I., *d.* Bladen (imp.) Neeltje 3rd 16942 *by* Ceres 4497 F.R.S.

1374 IV. (£4.)—Piddington (Northants) Estates, Ltd., Horton, Northampton, for **Piddington Freckles** 130724, born March 21; *s.* Hamels Paulus Potter 22989 P.I., *d.* Hamels Freckles 71944 *by* Hamels Daphne's Bertus 17191.

1372 V. (£3.)—Trustees of Sir Alasdair W. MacRobert, Bart., Douneside, Tarland, Aberdeenshire, for **Lochlands Rijpma 4th** 129258, born Jan. 26, bred by Adam Smith, Clockhouse, Woodmansterne; *s.* Lochlands Saakjeson 26403 P.I., *d.* Inwood (imp.) Rijpma 10th 18156 *by* De Verwachting 2nd 4429 F.R.S.

1360 R. N.—Sir James Hill, Bart., Hexton Manor, Hitchin, for **Hache Foam.**

H. C.—1371.

1367, 1368, 1417 **R. N. for Cup,[1] & R. N. for Trophy.[2])**—Lord Glentanar, for **Glentanar Marionette, Glentanar Wanda** and **Glentanar Karella.**

Class 180.—*British Friesian Heifers, born on or between July* 1 *and December* 31, 1928.

1379 I. (£15.)—Ethelbert Furness, Hamels Park, Buntingford, for **Hamels Keg o' Milk** 127552, born Sept. 3; *s.* Hamels Froujke's Nicolas 28725 P.I., *d.* Hamels Ingot 105542 *by* Hamels Daphne's Bertus 17191.

1378 II. (£10.)—Alfred J. Creed, Goldicote, Stratford-on-Avon, for **Randcount Peridot** 131066, born Aug. 29, bred by E. Slinger, Hazelcote, Kingscote; *s.* Holyport Ulysses 28887 P.I., *d.* Craigie Peridot 51680 *by* Dunninald Isaac 9535.

1380 III. (£5.)—Ethelbert Furness, for **Hamels Kerria** 127554, born Sept. 17; *s.* Hamels Froujke's Nicolas 28725 P.I., *d.* Hamels Iris 105552 *by* Hamels Daphne's Bertus 17191.

1382 IV. (£4.)—W. H. R. Gilbert, Aston Flamville, Hinckley, for **Astonville Black Girl 2nd** 123216, born July 12; *s.* Tarvin Janke's Mazeppa 24357 P.I., *d.* Terling Black Girl 13th 57276 *by* Tarvin Zwarte Frits 12805 P.I.

1381 R. N.—George Gee, Mayford House, Mayford, Woking, for **Herringtons Helen's Intent.**

H. C.—1383, 1384.

1379, 1380, 1392 **Trophy.**[2]—Ethelbert Furness, for **Hamels Keg o' Milk, Hamels Kerria** and **Hamels Lark.**

Class 181.—*British Friesian Heifers, born on or between January* 1 *and June* 30, 1929.[3]

1387 I. (£15.)—Arthur Allen, The Manor, Chesterblade, Somerset, for **Glen Wallaby,** born April 21; *s.* Glen Akrin 31035, *d.* Glen Waiwera 82144 *by* Kingswood Ynteserics 14531.

1405 II. (£10.)—Bertram Parkinson, Creskeld Hall, Arthington, Leeds, for **Creskeld Beatty Hazeline** 135598, born Feb. 13; *s.* Northdean Meibloem's Beatty 26679 P.I., *d.* Creskeld Hazeline 2nd 80584 *by* Creskeld (imp. 1922) Chief 19709.

1403 III. (£5.)—Joseph Iliffe, Port House, Coventry Road, Hinckley, for **Audmore Jill** 133376, born April 4, bred by R. Smalley, Audmore House, Gnosall; *s.* Westonhall Roland 32083, *d.* Audmore Gladys 100840 *by* Audmore Bram Roland 15885.

1406 IV. (£4.)—Errington Ross, Junr., Castle Heather, Inverness, for **Castleheather Bountiful,** born April 12; *s.* Douneside Ideal 25509, *d.* Castleheather Bunty 102436 *by* Royal Akkelander 2nd 26983.

1397 V. (£3.)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Barelectra,** born May 20; *s.* Glentanar Barlander 32765 P.I., *d.* Moss Electress 2nd 85186 *by* Moss Budget Laddie 20981.

1392 R. N.—Ethelbert Furness, Hamels Park, Buntingford, for **Hamels Lark.**

H. C.—1389, 1395, 1399, 1401, 1404. C.—1391, 1410.

Class 182.—*British Friesian Heifers, born on or between July* 1 *and December* 31, 1929.[3]

1415 I. (£15.)—W. H. R. Gilbert, Aston Flamville, Hinckley, for **Astonville Dairymaid 3rd,** born Oct. 18; *s.* Northdean Hollander 3rd 23845 P.I., *d.* Sudbourne Dairymaid 42132 *by* Golf (imp.) Botermijn 3919.

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[1] Silver Challenge Cup given through the British Friesian Cattle Society for the best group of three Cows or Heifers.

[2] Perpetual Bronze Challenge Trophy given by the Friesland Cattle Breeders' Association of South Africa for the best group of three animals bred by Exhibitor.

[3] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

1426 II. (£10.)—Miss E. Martin Smith, Grange Court, Portington, Eastrington, Howden, Yorks, for **Portington Bluebird,** born July 15 ; *s.* Northdean (imp. 1922) Marthus Beatty 21081, *d.* Portington Ladybird 86372 *by* Hamels Froukje's Roland 22985.

1417 III. (£5.)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Karella,** born Oct. 1 ; *s.* Glentanar Karelson 32771 P.I., *d.* Northdean Barbara 74624 P.I. *by* Northdean (imp. 1922) Marthus Beatty 21081.

1422 IV. (£4.)—Trustees of Sir Alasdair W. MacRobert, Bart., Douneside, Tarland, Aberdeenshire, for **Douneside Mimula** 136026, born Aug. 30 ; *s.* Douneside Masterpiece 19835, *d.* Douneside Bertus Minna 2nd 115320 *by* Hache Apollo 22925 P.I.

1418 V. (£3.)—Ernest B. Hall, Hales Hall, Market Drayton, for **Hales Amiable,** born Sept. 16 ; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Amiable 71740 *by* Clockhouse King Akrin 11321 P.I.

1425 R. N.—Dr. J. Witherow Pitt, Burscough, Ormskirk, for **Parbold Gretchen.**

H. C.—1420, 1424. C.—1411, 1413, 1421, 1423.

Ayrshires.

Class 183.—*Ayrshire Bulls, born on or before September* 1, 1929.

1430 I. (£15, & R. N. for Champion.[1])—A. W. Montgomerie, Lessnessock, Ochiltree, Ayrshire, for **Lessnessock Sunny Jim** 28457, born March 3, 1928 ; *s.* Low Balcray Sunny Jim 26356, *d.* Friendlesshead Nannie Whitelegs 2nd 81679 *by* Slodahill Rhonda 17852.

1429 II. (£10.)—Jones & Watson, Seckford Farm, Woodbridge, for **Seckford Bright Star** 29747, born Sept. 29, 1928 ; *s.* Millantae Follow On 27790, *d.* Low Balcray Lucy 7155 *by* Bargenoch Umpire 18492.

1431 III. (£5.)—Clement E. Tory, Higher Burton House, Dorchester, for **Misarden Carlos** 28390, born Sept. 2, 1927, bred by F. N. H. Wills, Misarden Park, Stroud ; *s.* Chapmanton Necessity 25307, *d.* Cargen Holm Charlotte 6th 94433 *by* Thornhill Mount Royal 19147.

Class 184A.—*Ayrshire Cows, in-milk, born on or before September* 1, 1926.

1444 I. (£15, Champion,[1] & Champion.[2])—Jones & Watson, Seckford Farm, Woodbridge, for **Auchenbrain Miss Craig 34th** 98389, born March 9, 1924, calved June 22, 1930, bred by David Wallace, Auchenbrain, Mauchline ; *s.* South Craig Footprint 19958, *d.* Auchenbrain Miss Craig 12th 57345 *by* Lessnessock Kerensky 16026.

1447 II. (£10.)—Robert Mackay, Bruchag, Rothesay, for **Ballochmartin Cinderella 7th** 4345, born June 10, 1925, calved July 6, 1930 ; *s.* Ballochmartin Pearlstone 24287, *d.* Ballochmartin Cinderella 4th 91510 *by* Netherton McBeth 18393.

1453 III. (£5.)—Clement E. Tory, Higher Burton House, Dorchester, for **Eglinton Juno** 95438, born Oct. 30, 1923, calved April 27, 1930, bred by the Earl of Eglinton and Winton, Horns Lodge, Tonbridge ; *s.* Eglinton Mains Snow King 19734, *d.* Eglinton Mains Midsummer 80963 *by* Howie's Hot Stuff 17895.

1434 IV. (£4.)—Matthew Cochrane, Catlins, Lockerbie, for **Morton Mains Swannie** 82206, born May 10, 1921, calved June 9, 1930, bred by David Hendrie, Castlehill, Durisdeer ; *s.* Redhills Pioneer 18221, *d.* Castlehill Bell 33020 *by* Castlehill Andrew 9482.

1454 R. N.—David Wallace, Auchenbrain, Mauchline, Ayrshire, for **Auchenbrain Big Kate 13th.**

Class 184B.—*Ayrshire Cows, in-calf, born on or before September* 1, 1926.

1445 I. (£15, & R. N. for Champion.[2])—Jones & Watson, Seckford Farm, Woodbridge, for **Culnoag Polly** 486, born March 5, 1925, bred by A. M. Owen, Culnoag, Sorbie ; *s.* Drumsuie Gay Lad 18628, *d.* Culnoag Lady Garlies 3rd 53753 *by* Barglass Footprint 8251.

1433 II. (£10.)—John Cochrane, Byreholm, Thornhill, Dumfriesshire, for **Byreholm Fern** 1858, born March 1, 1925 ; *s.* Barr Garrylinn 24254, *d.* Byreholm Beulah 76955 *by* Cairnmill Lord Glenside 20970.

1450 III. (£5.)—The National Society for Epileptics, The Orchards, Chalfont Colony, Gerrards Cross, for **Bruchag Pearl 11th** A 8600, born May 4, 1920, bred by Mrs. Mackay, Bruchag, Rothesay ; *s.* Auchenbrain Captivator 17532, *d.* Bruchag Pearl B 2628 *by* Bruchag Ardyne 7453.

1435 IV. (£4.)—Robert Dalziel, Rue, Auldgirth, Dumfries, for **Rue Black Diana** 2288, born Jan. 12, 1924, bred by A. and R. Young, Redhills, Forthorwald ; *s.* Redhills Sevindel 24132. *d.* Redhills Diana 58192 *by* Redhills Pearlstone 13803.

1432 R. N.—H. J. Clark, Oldner House, Chipping Norton, for **Clendrie Canty 2nd.**

Class 185.—*Ayrshire Cows or Heifers, in-milk or in-calf, born after September* 1, 1926.[3]

1460 I. (£15.)—Alexander McFarlane, Salchrie Farm, Kirkcolm, Stranraer, for **Mains of Airies Wigan 6th** 17740, born Dec. 30, 1927, in calf, bred by Robert Paton, Mains of Airies, Stranraer ; *s.* Lochinch Journeyman 26447, *d.* Mains of Airies Wigan 4th 5243 *by* Dunlop Hotspur 19680.

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[1] The "Cowhill" Silver Challenge Cup, given through the Ayrshire Cattle Herd Book Society for the best Ayrshire. A Prize of £5 will be given by the Ayrshire Cattle Herd Book Society to the winner of the Cup each year.

[2] The "Oldner" Silver Challenge Cup, given through the Ayrshire Cattle Herd Book Society, for the best Cow or Heifer.

[3] Prizes given by the Ayrshire Cattle Herd Book Society.

1456 II. (£10.)—H. J. CLARK, Oldner House, Chipping Norton, for **Oldner Maggie** 13177, born Nov. 29, 1926, calved June 30, 1930; *s.* Ickham Mascot 24352, *d.* Caigton Maggie 7th 89734 *by* Hobsland Lucky Star 19597.

1458 III. (£5.)—JONES & WATSON, Seckford Farm, Woodbridge, for **Knockterra Dolly** 20515, born Oct. 20, 1927, calved June 21, 1930, bred by David Wardrop, Knockterra, Cumnock; *s.* Low Milton Donald 25442, *d.* Knockterra Clip 2nd 529 *by* Thornhill Baronet 22405.

1459 R. N.—JOHN MCALISTER, Brancote Hall, Stafford, for **Mid Ascog Gaiety 3rd.**

Guernseys.

N.B.—Unless otherwise stated the numbers refer to the English Guernsey Herd Book.

Class 186.—*Guernsey Bulls, born in or before* 1927.

1468 I. (£15, Champion,[1] & Champion.[2])—THE MISSES HARGREAVES, Nazeing Park, Essex, for **Clara's Lad of King's Mills** 6020, fawn and white, born July 26, 1924, bred by J. N. Dorey, King's Mills, Catel, Guernsey; *s.* May Rose Lad of the Spurs 6153, *d.* 18995 Clara's Bounty of Maple Lodge *by* Clara's Emblem 3994 P.S.

1467 II. (£10, R. N. for Champion,[1] & R. N. for Champion.[2])—SIR ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, for **Fernhill Rose Lad** 6432, fawn and white, born June 26, 1926, bred by W. Dunkels, Fernhill Park, Windsor Forest; *s.* Rose Lad of Goodnestone 3163, *d.* 14281 Downe Fleur de Vimiera *by* Valentine's Honour of the Passée 3826.

1465 III. (£5.)—W. DUNKELS, Fernhill Park, Windsor Forest, for **Fernhill Rose Lad 3rd** 6860, fawn and white, born May 20, 1927; *s.* Rose Lad of Goodnestone 3163, *d.* 14281 Downe Fleur of Vimiera *by* Valentine's Honour of the Passée 3826 P.S.

1469 R. N.—MRS. J. SUTCLIFFE PYMAN, Norsebury, Sutton Scotney, Hants, for **Norsebury Noel.**

Class 187.—*Guernsey Bulls, born in* 1928.

1478 I. (£15.)—LORD REMNANT, Bear Place, Hare Hatch, Twyford, Berks, for **Dene Star 2nd** 7377, fawn and white, born June 19; *s.* Dene Victor of the Issues 2nd 6198, *d.* 22227 Dene Starette *by* Dene Treacle's Boy 4749.

1473 II. (£10.)—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Milton Rose Lad** 7330, fawn and white, born June 12, bred by Sir Eric Hambro, K.B.E., Milton Abbey, Blandford; *s.* Fern Hill Rose Lad 6432, *d.* 16764 Milton Rosey 5th *by* Hayes Pride 3951.

1474 III. (£5.)—ESMOND D. FAIRWEATHER, The Manor House, Waltham St. Lawrence, Berks, for **Lord Roberts 6th of Rusper** 7249, fawn and white, born April 4, bred by W. A. Argent, Rusper, Horsham; *s.* Lynchmere Lord Roberts 20th 5335, *d.* 20547 Ladock Princess Elina *by* Sarnia's Cadet 5220.

1471 IV. (£4.)—W. A. ARGENT, Rusper, Horsham, for **Wintergreen's Sequel of Rusper** 7143, fawn and white, born Feb. 29; *s.* Sequel's Kismet 2nd 5998, *d.* 18578 Wintergreen of Goodnestone 12th *by* Rose Lad of Goodnestone 3163.

1472 R. N.—MRS. GEORGE BRUDENELL, Deene Park, Peterborough, for **Ringwould Robert.**

Class 188.—*Guernsey Bulls, born in* 1929.

1482 I. (£15.)—W. DUNKELS, Fernhill Park, Windsor Forest, for **Fernhill Robert 5th** 7795, fawn and little white, born April 28; *s.* Hindhead Robert 6th 5847, *d.* 14281 Doune Fleur of Vimiera *by* Valentine's Honour of the Passée 3826 P.S.

1481 II. (£10.)—W. DUNKELS, for **Fernhill Robert 4th** 7645, fawn and white, born Feb. 8; *s.* Hindhead Robert 6th 5847, *d.* 15836 Starlight Broom *by* Hurst Freda's Jewel 2nd 3543.

1490 III. (£5.)—MRS. J. SUTCLIFFE PYMAN, Norsebury, Sutton Scotney, Hants, for **Norsebury Lodestar 6th** 7884, fawn and little white, born June 14; *s.* Sequel's Lodestar 2nd 4932, *d.* 22153 Hindhead Tulip *by* Hindhead Governor 4842.

1485 IV. (£4.)—CAPT. C. J. KANE, Kingston Russell House, Long Bredy, Dorchester, for **Milton Goldfinder 4th** 7838, fawn and white, born May 27, bred by Sir Eric Hambro, K.B.E., Milton Abbey, Blandford; *s.* Milton Goldfinder 2nd 6780, *d.* 16570 Hayes Lolu 5th *by* Ladock Prince Albert 3550.

1484 V. (£3.)—SIR ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, for **Milton Goldfinder 5th** 7862, fawn and white, born June 16; *s.* Milton Goldfinder 2nd 6780, *d.* 16764 Milton Rosey 5th *by* Hayes Pride 3951.

1492 R. N.—MRS. D. S. L. VERSCHOYLE, Brookhill, Wokingham, for **Brookhill Slogan's Sequence.**

Class 189.—*Guernsey Cows, in-milk, born in or before* 1925.

1499 I. (£15, Champion,[3] & Champion.[4])—W. DUNKELS, Fernhill Park, Windsor Forest, for 18813 **Fernhill Rose**, fawn and white, born Aug. 8, 1923, calved June 17, 1930; *s.* Murrell Desmond 4263, *d.* 14514 Lynchmere Rose of Kent 5th *by* Prince of Vimiera 3577.

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[1] Champion Prize of £5 given by the English Guernsey Cattle Society for the best Bull.

[2] The "Calehill" Silver Challenge Cup given by the English Guernsey Cattle Society for the best Bull.

[3] Champion Prize of £5 given by the English Guernsey Cattle Society for the best Cow or Heifer.

[4] The "Fernhill" Silver Challenge Cup given by the English Guernsey Cattle Society for the best Cow or Heifer.

1497 II. (£10.)—George Blight, Tregonning, Breage, Helston, for 18204 **Rosewarne Buttercup**, yellow and white, born Jan. 23, 1922, calved May 16, 1930, bred by J. M. Holman, Rosewarne, Camborne; *s.* Tregonning Field Marshal 4054, *d.* 13853 Rosewarne Dorothy 2nd *by* Ladock Prince 2995.

1503 III. (£5.)—Mrs. J. Sutcliffe Pyman, Norsebury, Sutton Scotney, Hants, for 29223 **Sheba 2nd of Pine Grove**, fawn and white, born Aug. 5, 1923, calved April 13, 1930, bred by Count Blucher, Hainsard Hall, Guernsey; *s.* May Boy of Beaulieu 4300, *d.* 21619 Sheba of Pine Grove *by* Sequel's Lodestar 4131.

1505 IV. (£4.)—The Hon. Mrs. Waters, Arley Hall, Northwich, for 22329 **Poltimore Gipsy Queen**, fawn and white, born May 22, 1925, calved June 22, 1930, bred by Lord Poltimore, Court Hall, North Molton; *s.* Pengelly Boy's Sequel 4893, *d.* 18709 Tregonning Gipsy Girl 2nd *by* Puddington Toreador 4296.

1504 R. N.—Lord Rayleigh, Terling Place, Chelmsford, for **Terling Rose 2nd.**

Class 190.—*Guernsey Cows or Heifers, in-milk, born in 1926 or 1927.*[1]

1510 I. (£15, R. N. for Champion,[2] & R. N. for Champion.[3])—Mrs. J. Sutcliffe Pyman, Norsebury, Sutton Scotney, Hants, for 25809 **Rosey of Goodnestone 33rd**, fawn and white, born Feb. 8, 1927, calved May 15, 1930, bred by Lord FitzWalter, Goodnestone Park, Canterbury; *s.* Clara's Lad of Kings Mills 6020, *d.* 20243 Rosey of Goodnestone 22nd *by* Sequel's Slogan 2nd 4311.

1511 II. (£10.)—Mrs. D. S. L. Verschoyle, Brookhill, Wokingham, for 30088 **Charlotte of Bakers' Valley**, fawn and white, born June 15, 1927, calved May 22, 1930, bred by P. Perrée, Bakers' Valley, Sark; *s.* Rex of Bakers' Valley 4965 P.S., *d.* Lily of La Héche 5398 F.S.

1507 III. (£5.)—W. A. Argent, Rusper, Horsham, for 29578 **Clara's Fashion 3rd**, fawn and white, born Dec. 2, 1926, calved June 13, 1930, bred by E. P. Maby, Maple Lodge, Guernsey; *s.* Rex of Maple Lodge 6448, *d.* Clara's Fashion 21421 P.S. *by* Sequel's Lodestar 5287.

1512 R. N.—The Hon. Mrs. Waters, Arley Hall, Northwich, for **Clandon Bedelia.**

Class 191.—*Guernsey Heifers, born in* 1928.

1514 I. (£15.)—W. Dunkels, Fernhill Park, Windsor Forest, for 28604 **Fernhill Fleur**, fawn and white, born June 7; *s.* Hindhead Robert 6th 5847, *d.* 14281 Downe Fleur of Vimiera *by* Valentine's Honour of the Passée 3826.

1515 II. (£10.)—W. Dunkels, for 28077 **Fernhill Rose 2nd**, fawn and white, born March 28; *s.* Hindhead Robert 6th 5847, *d.* 18813 Fernhill Rose *by* Murrell Desmond 4263.

1517 III. (£5.)—Mrs. D. S. L. Verschoyle, Brookhill, Wokingham, for 30176 **Pride of Bakers' Valley**, fawn and white, born June 15, bred by P. Perrée, Bakers' Valley, Sark; *s.* Rex of Bakers' Valley 4965 P.S., *d.* Lily of La Héche 5398 F.S.

Class 192.—*Guernsey Heifers, born in* 1929.

1519 I. (£15.)—W. Dunkels, Fernhill Park, Windsor Forest, for 30751 **Fernhill Primrose 5th**, fawn and white, born April 21; *s.* Hindhead Roberts 6th 5847, *d.* 18812 Fernhill Primrose 3rd *by* Rose Lad of Goodnestone 3163.

1523 II. (£10.)—The Misses Hargreaves, Nazeing Park, Essex, for 30910 **Nazeing Violet 2nd**, fawn and white, born May 25; *s.* Clara's Lad of King's Mills 6020, *d.* 16419 Downe Violet's Pride 2nd *by* Warbler's Dream 3249.

1521 III. (£5.)—Sir Eric Hambro, K.B.E., Milton Abbey, Blandford, for 30932 **Milton Ivy 4th**, fawn and white, born June 4; *s.* Milton Star 2nd 6905, *d.* 26535 Milton Ivy 2nd *by* Hayes Goldfinder 2nd 5788.

1524 R. N.—Mrs. Evelyn Rich, Wretham Hall, Thetford, for **Silverstead Polly.**

Jerseys.

N.B.—In the Jersey Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Island Herd Book. A number without brackets indicates that the animal is registered in the English Jersey Herd Book.

Class 193.—*Jersey Bulls, born in or before* 1927.

1527 I. (£15, & Champion.[4])—H. Cecil Pelly, Venars, Nutfield, Surrey, for **Kentwins Poppy's Aroma**, slightly broken colour, born March 28, 1927; *s.* Poppy's You'll Do 6200, *d.* Flashlight's Josy (imp.) 6354 *by* Flashlight 6041.

1534 II. (£10.)—Cortlandt Taylor, Platt House Farm, Wrotham Hill, Wrotham, Kent, for **Fairseat Favourite** 15978, whole colour, born Aug. 24, 1926; *s.* Mantle's Favourite 15063, *s.* Goddington Lady Aldan 4th *by* Pioneer's Noble 12416.

1528 III. (£5.)—C. J. Phillips, Old Dalby Hall, Melton Mowbray, for **Cupid** 13894, whole colour, born March 25, 1921, bred by Major the Hon. H. Pearson, Cowdray Park, Midhurst; *s.* Pioneer's Noble 12416, *d.* Roselle *by* Northcliffe 12728.

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[1] Prizes given by the English Guernsey Cattle Society.

[2] Champion Prize of £5 given by the English Guernsey Cattle Society for the best Cow or Heifer.

[3] The "Fernhill" Silver Challenge Cup given by the English Guernsey Cattle Society for the best Cow or Heifer.

[4] Champion Prize of £5 given by the English Jersey Cattle Society for the best Bull.

1532 **IV. (£4.)**—H. STEPHEN-FOX, Sharelands, Blackboys, Sussex, for **Cowdray Pioneer 11th** 16254, whole colour, born April 27, 1926, bred by Viscount Cowdray, Cowdray Park, Midhurst; *s.* Cowdray Pioneer 6th 14578, *d.* Nella 2nd (imp.) *by* Oxford's Fern Hope 13373.

1526 **R. N.**—SIR HAROLD MACKINTOSH, Conyngham Hall, Knaresborough, for **North Stoke Beechnut.**

H. C.—1525.

Class 194.—*Jersey Bulls, born in* 1928.

1537 **I. (£15, & R. N. for Champion.[1])**—MRS. J. T. WIGAN, Danbury Park, Chelmsford, for **Carnatie's Sweep,** whole colour, born April 19, bred by A. W. Ruggles Brise, Spains Hall, Braintree; *s.* Diamond's Sweep 15966, *d.* Carnatie's Gift 5th (Vol. 32, p. 291) *by* Minorca's Jolly Sultan 12076.

1536 **II. (£10.)**—W. H. PRESCOTT, Highlands, Woldingham, Surrey, for **Fairseat Gnome,** whole colour, born Nov. 1, bred by Cortlandt Taylor, Platt House Farm, Wrotham; *s.* Fairseat Future 15854, *d.* Fairseat Fairy 7819 *by* Mantle's Favourite 15063.

1535 **III. (£5.)**—MRS. EVELYN, Wotton House, Dorking, for **Bright Eyes Sweep,** whole colour, born June 28, bred by A. W. Ruggles Brise, Spains Hall, Braintree; *s.* Lingen Sweep Time 15523, *d.* Bright Eyes Hessy 149 *by* Lord Capsicum 13340.

Class 195.—*Jersey Bulls, born in* 1929.

1541 **I. (£15, & Champion.[2])**—MRS. EVELYN, Wotton House, Dorking, for **Wotton Sandpole,** whole colour, born May 24; *s.* Wotton Maypole 16213, *d.* Wotton Sand Maiden (Vol. 32, p. 484) *by* Wotton Sandy 12814.

1546 **II. (£10.)**—MRS. HAYES SADLER, Roundstone Farm, Ferring, Sussex, for **Velveteen's Oxford,** whole colour, born June 8; *s.* Oxford 15533, *d.* Poppy's Velveteen 8403 *by* Cid's Poppy Boy 15281.

1538 **III. (£5, & R. N. for Champion.[2])**—MRS. G. J. AUSTIN, Ellern Mede, Totteridge, Herts, for **Ruby's Beau,** whole colour, born May 11; *s.* Dusky Beau 16135, *d.* Ruby Golden, 5574 *by* Golden Orb 15005.

1543 **IV. (£4.)**—SIR HAROLD MACKINTOSH, Conyngham Hall, Knaresborough, for **Emperor Louis,** whole colour, born Feb. 11, bred by Lady Estella Hope, South Park, Bodiam, Sussex; *s.* Purple Emperor 16066, *d.* Jeanette 2056 *by* Excelesden Peter 13556.

1548 **R. N.**—CORTLANDT TAYLOR, Platt House Farm, Wrotham Hill, Wrotham, Kent, for **Fairseat Faultless.**

H. C.—1539, 1544, 1545, 1547.

Class 196.—*Jersey Cows, in-milk, born in or before* 1926.

1554 **I. (£15, Champion,[3] & Special, £10.[4])**—A. W. RUGGLES BRISE, Spains Hall, Braintree, Essex, for **Bright Lass** 2957, broken colour, born May 30, 1923, calved May 26, 1930; *s.* Cowdray Hero 13886, *d.* Bright Eye *by* Combination 2nd 11644.

1552 **II. (£10.)**—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Essence Pride** 1828, whole colour, born Jan. 8, 1922, calved June 18, 1930, bred by F. G. le Rossignol, St. Brelade, Jersey; *s.* Mytilda's Beau 14395, *d.* Tulip Essence (24490) *by* Tulip Noble 12476.

1566 **III. (£5.)**—H. CECIL PELLY, Venars, Nutfield, Surrey, for **Flashlight's Josy** 6354, broken colour, born Feb. 24, 1925, calved May 12, 1930, bred by J. St. C. Hamon, Trinity, Jersey; *s.* Flashlight 14993, *d.* Amy Josy (22735) P.S.C., *by* Financial Baron 11310.

1563 **IV. (£4.)**—SIR HAROLD MACKINTOSH, Conyngham Hall, Knaresborough, for **Golden Maid Light** 4925, whole colour, born April 17, 1922, calved April 18, 1930, bred by W. P. Jean, St. Lawrence, Jersey; *s.* Golden Maid's Double 13591, *d.* Lily Light 4th (24559) P.S.H.C. *by* Blonde's Golden Oxford 12554.

1569 **V. (£3.)**—MRS. A. F. HAYES SADLER, Roundstone Farm, Ferring, Sussex, for **Lady Poppy** 8090, whole colour, born March 3, 1926, calved May 11, 1930; *s.* Cid's Poppy Boy 15281, *d.* Eastfield Lady *by* Jersey Volunteer 12664.

1556 **R. N.**—MRS. EVELYN, Wotton House, Dorking, for **Coppid War Planet.**

H. C.—1551, 1568. **C.**—1567, 1571.

Class 197.—*Jersey Heifers, in-milk, born in* 1927.

1580 **I. (£15, R. N. for Champion,[3] & Special, £5.[4])**—W. H. PRESCOTT, Highlands, Woldingham, Surrey, for **Highbrow of Highlands** (Vol. 39, p. 177), broken colour, born March 24, calved June 9, 1930; *s.* Les Petits Canons Prudence Prince 15882, *d.* Options Laurel 6858 *by* Le Rondin Oxford Lad 14669.

1575 **II. (£10.)**—A. W. RUGGLES BRISE, Spains Hall, Braintree, Essex, for **Lady Sweep Time** (Vol. 39, p. 190), whole colour, born March 29, calved April 27, 1930; *s.* Lingen Sweep Time 15523, *d.* Ladysmith 3rd *by* Buton 9517.

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[1] Champion Prize of £5 given by the English Jersey Cattle Society for the best Bull.

[2] The "Meridale" Perpetual Silver Challenge Cup given through the English Jersey Cattle Society for the best yearling Bull from recorded dam.

[3] Champion Prize of £5 given by the English Jersey Cattle Society for the best Cow or Heifer.

[4] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the English Jersey Cattle Society for the best Cows or Heifers in Classes 196 to 198, bred by Exhibitor, and milked out to the Judge's satisfaction before being judged.

1574 III. (£5.)—A. W. Ruggles Brise, for **Cowslip 5th** (Vol. 39, p. 191), whole colour, born Dec. 22, calved June 11, 1930; *s.* Lingen Sweep Time 15523, *d.* Cowslip *by* Minorca's Jolly Sultan 12076.

1581 IV. (£4.)—Cortlandt Taylor, Platt House Farm, Wrotham Hill, Wrotham, Kent, for **Fairseat Favorita** (Vol. 39, p. 211), broken colour, born Feb. 18, calved April 29, 1930; *s.* Mantle's Favorite 15063, *d.* Broadlands Favorite 2nd 4477 *by* Xenia's Sultan 13798.

1576 R. N.—Miss Dronsfield, Norley Hall, Norley, Frodsham, for **Wotton Placid Guide**

H. C.—1573, 1577. C.—1579.

Class 198.—*Jersey Heifers, in-milk, born in* 1928.[1]

1585 I. (£15, & R. N. for Specials.[2])—Mrs. G J. Austin, Ellern Mede, Totteridge, Herts, for **Bellarina**, whole colour, born May 6, calved June 12, 1930; *s.* Rapallo 15545, *d.* Raleigh's Beauty 1053 *by* Raleigh's Jap 2nd 13089.

1592 II. (£10.)—H. Cecil Pelly, Venars. Nutfield, Surrey, for **Kentwins Anchusa** (Vol 40, p. 166), broken colour, born April 26, calved July 3, 1930; *s.* Beau des Noyers 15925, *d.* Mastermaid *by* Masterman of Oaklands 13020.

1589 III. (£5.)—Sir Harold Mackintosh, Conyngham Hall, Knaresborough, for **Conyngham's Snowdrop** (Vol. 40, p. 143), whole colour, born Feb. 1, calved April 1, 1930; *s.* St. Louis 14778, *d.* Lydia *by* Cowdray Dairyman 13520.

1588 IV. (£4.)—Sir Harold Mackintosh, for **Conyngham's Louise** (Vol. 40, p. 143), whole colour, born May 17, calved June 17, 1930; *s.* St. Louis 14778, *d.* Philandra 2411 *by* Pilgrim 13699.

1594 R. N.—Mrs. J. T. Wigan, Danbury Park, Chelmsford, for **Lady Daphne 2nd.**

H. C.—1587, 1593. C.—1591.

Class 199.—*Jersey Heifers, born in* 1929.

1609 I. (£15.)—C. J. Phillips, Old Dalby Hall, Melton Mowbray, for **Dalby Ladylove**, broken colour, born June 3; *s.* Cupid 13894, *d.* Faerie Ladye 6336 *by* Philidora's Volunteer 14415.

1606 II. (£10.)—H. S. Mountain, Groombridge Place, Kent, for **Sir Laurence's Ella**, whole colour, born June 13; *s.* Sir Laurence 16187, *d.* Sir Laurel's Berthella (Vol. 39. p. 155), *by* Sir Laurel 15228.

1600 III. (£5.)—Mrs. Evelyn, Wotton House, Dorking, for **Wotton Desert Sun**, broken colour, born July 6; *s.* Henbury Sunrise 15873, *d.* Wotton Manna 7319 *by* Wotton Airman 2nd 14502.

1614 IV. (£4.)—Cortlandt Taylor, Platt House Farm, Wrotham Hill, Wrotham, Kent, for **Fairseat Peggy 2nd**, whole colour, born June 2; *s.* Fairseat Favorite 15978, *d.* Majestic's Peggy 3644 *by* Danbury Majestic 13901.

1601 V. (£3.)—Lady Violet Henderson, Buscot Park, Faringdon, for **Circe**, whole colour, born June 22, bred by Mrs. Carlton, Eastwood Park, Falfield, Glos; *s.* The Slasher 14143, *d.* Disturbing Charm 6240 *by* You'll Do's Volunteer 14832.

1595 R. N.—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Hook Mayflower.**

H. C.—1596, 1597, 1610. C.—1599, 1602, 1607.

Cup.[3]—H. Cecil Pelly and A. W. Ruggles Brise, tied.

Kerrys.

N.B.—In the Kerry Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Royal Dublin Society's Herd Book. A number without brackets indicates that the animal is registered in the British Kerry Herd Book.

Class 200.—*Kerry Bulls, born in or before* 1928.

1616 (£15, & Champion.[4])—The Elmhurst Farming & Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Haymaker** 832, born March 24, 1928; *s.* Baunclnone Evander 710, *d.* Coquet Hebe 2368 *by* Coquet Emperor 396.

1618 II. (£10.)—Mrs. S. Freeland, Manor House, Cheselbourne, Dorchester, for **Valencia Minstrel** 667, born Nov. 8, 1924, bred by Kerry Estates, Ltd., Warren House, Stanmore, Middlesex; *s.* Valencia Perry 616, *d.* Valencia Moya 3234 *by* Valencia Chieftain 421.

1619 III. (£5.)—E. P. F. Sutton, Sidmouth Grange, Reading, for **Lynford Edward** 725, born Nov. 26, 1925, bred by the Country Breeding Estates, Ltd., Lynford, Mundford, Brandon; *s.* Southwater Edward 568, *d.* Southwater Barbara 3964 *by* Valencia Linksman 496.

1620 R. N.—John William Towler, Wadlands Hall, Farsley, Leeds, for **Carton Nero.**

Class 201.—*Kerry Bulls, born in* 1929.

1621 I. (£15.)—The Elmhurst Farming & Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Invader** 833, born June 14; *s.* Baunclnone Evander 710, *d.* Valencia Joan 3226 *by* Czar of Carton 506.

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[1] Prizes, except Fourth, given by the English Jersey Cattle Society.

[2] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the English Jersey Cattle Society for the best Cows or Heifers in Classes 196 to 198, bred by Exhibitor, and milked out to the Judge's satisfaction before being judged.

[3] The "Conyngham" Perpetual Silver Challenge Cup given through the English Jersey Cattle Society for the most points awarded in a combination of entries.

[4] Silver Challenge Cup given by the British Kerry Cattle Society for the best animal.

1623 II. (£10.)—MRS. S. FREELAND, Manor House, Cheselbourne, Dorchester, for **Cheselbourne David** 827, born Feb. 17; *s.* Valencia Minstrel 667, *d.* Gort Drops 10th 3379 *by* Gort Prince 2nd (718).

1622 III. (£5.)—THE ELMHURST FARMING & TRADING CO., LTD., for **Elmhurst Islander** 834, born June 30; *s.* Baunclune Evander 710, *d.* Buckland Peace 2nd 3346 *by* Valencia Royal Chief 462.

1624 R. N.—E. P. F. SUTTON, Sidmouth Grange, Reading, for **Kidmore King of the Roses.**

Class 202.—*Kerry Cows, in-milk, born in or before* 1926.

1631 I. (£15, & R. N. for Champion.[1])—JOHN WILLIAM TOWLER, Wadlands Hall, Farsley, Leeds, for **Wadlands Flash Fan** 4271, born June 2, 1924, calved May 19, 1930; *s.* Wadlands Flashpoint 621, *d.* Wadlands Fanny 3480 *by* Valencia Harold 494.

1629 II. (£10.)—E. P. F. SUTTON, Sidmouth Grange, Reading, for **Hattingley Camelia L** 4136, born Jan. 11, 1924, calved May 20, 1930, bred by Capt. Nelson Zambra and C. W. Milne, West Tisted Manor, Winchester; *s.* Minley Monsoon 515, *d.* Hattingley Helpmate 2nd 3054 F.S.

1625 III. (£5.)—THE ELMHURST FARMING & TRADING CO., LTD., Elmhurst Farm, Slinfold, Sussex, for **Hattingley Humulus 2nd** 2689 F.S., born in 1919, calved May 29, 1930.

1630 R. N.—JOHN WILLIAM TOWLER, for **Vaddy Trent 4th.**

Class 203.—*Kerry Heifers, in-milk, born in* 1927 *or* 1928.

1635 I. (£15,)—E. P. F. SUTTON, Sidmouth Grange, Reading, for **Hattingley Forget-Me-Not** 4562, born June 3, 1927, calved May 22, 1930, bred by Capt. Nelson Zambra & C. W. Milne, West Tisted Manor, Winchester; *s.* Hattingley Cuthbert 723, *d.* Hattingley Calceolaria 4347 *by* Valencia Samson 535.

1636 II. (£10.)—JOHN WILLIAM TOWLER, Wadlands Hall, Farsley, Leeds, for **Hattingley Gentian**, born March 13, 1928, calved May 11, 1930, bred by Capt. Nelson Zambra & C. W. Milne, West Tisted Manor, Winchester; *s.* Hattingley Cyril 765, *d.* Hattingley Dimple 4550 *by* Hattingley Barry 690.

1634 III. (£5.)—THE ELMHURST FARMING & TRADING CO., LTD., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Greeting** 4540, born Sept. 6, 1927, calved June 26, 1930; *s.* Elmhurst Excellency 687, *d.* Elmhurst Charmian 3565 *by* Elmhurst Ambassador 556.

1638 R. N.—JOHN WILLIAM TOWLER, for **Wadlands Floss 2nd.**

H. C.—1637. C.—1633.

Class 204.—*Kerry Heifers, not in-milk, born on or between September* 1, 1928 *and December* 31, 1929.[2]

1645 I. (£15.)—JOHN WILLIAM TOWLER, Wadlands Hall, Farsley, Leeds, for **Wadlands Flash Trent 2nd**, born June 16, 1929; *s.* Wadlands Flash Boy 814, *d.* Wadlands Flash Trent 4824 *by* Wadlands Flashpoint 621.

1642 II. (£10.)—MRS. S. FREELAND, Manor House, Cheselbourne, Dorchester, for **Cheselbourne Curly**, born Dec. 1, 1928; *s.* Valencia Minstrel 667, *d.* Cheselbourne Cowslip 4506 *by* Duv Demon 640.

1641 III. (£5.)—THE ELMHURST FARMING & TRADING CO., LTD., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Iris**, born March 31, 1929; *s.* Baunclune Evander 710, *d.* Hattingley Humulus 2nd 2689 F.S.

1646 R. N.—JOHN WILLIAM TOWLER, for **Wadlands Trent 3rd.**

Dexters.

N.B.—In the Dexter Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Royal Dublin Society's Herd Book. A number without brackets indicates that the animal is registered in the English Dexter Herd Book.

Class 205.—*Dexter Bulls, born in or before* 1928.

1649 I. (£15, Champion,[3] & Champion.[4])—W. LINDSAY EVERARD, M.P., Ratcliffe Hall, Leicester, for **Ratcliffe Nubian** 1020, born May 24, 1927; *s.* Ratcliffe Negro 939, *d.* Lyndsays Blackberry 3482 *by* Grinstead Toreador 788.

1652 II. (£10.)—MRS. H. P. MAY, The Priory, Tiptree, Essex, for **Ratcliffe Pippin**, born June 8, 1928, bred by W. Lindsay Everard, M.P., Ratcliffe Hall, Leicester; *s.* Brokenhurst Philip 726, *d.* Byford Lass 3082 *by* Byford Banner 697.

1647 III. (£5.)—MISS DORA BOX, Darlingscote, Shipston-on-Stour, for **Banwell Edgar** 1056 born April 30, 1928, bred by Mrs. C. M. L. Calvert, Banwell Castle, Banwell; *s.* Ratcliffe Goldsmith 976, *d.* Banwell Evangeline 3737 *by* Wightwick Paul 864.

1650 R. N.—MRS. ERNEST JOHNSON, Ashton Hayes, Chester, for **Grinstead Crowberry.**

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[1] Silver Challenge Cup given by the British Kerry Cattle Society for the best animal.

[2] Prizes given by the British Kerry Cattle Society.

[3] Silver Challenge Cup given by the Dexter Cattle Society for the best animal.

[4] Silver Challenge Breeders' Bowl given through the Dexter Cattle Society for the best animal already registered in the Dexter Herd Book, and which is the progeny of sire and dam already registered.

Class 206.—*Dexter Bulls, born in* 1929.

1656 I. (£15.)—Mrs. Ernest Johnson, Ashton Hayes, Chester, for **Grinstead Taxi**, born Aug. 9, bred by Lady Loder, Leonardslee, Horsham; *s.* Oakridge Evergood 2nd 1014, *d.* Grinstead Taxus 2nd 3630 *by* Cobham Clinker 826.

1657 II. (£10.)—Mrs. H. P. May, The Priory, Tiptree, Essex, for **Braxted Lucky Shot**, born July 26; *s.* Drumgaunagh Red Ball 920, *d.* Fillongley Farola 2487 *by* General Manager 523.

1654 III. (£5.)—Miss Dora Box, Darlingscote, Shipston-on-Stour, for **Wightwick Gadfly 2nd**, born April 6; *s.* Wightwick Gadfly 984, *d.* Wightwick Dinah 3520 *by* Fillongley Forest Fiend 784.

1655 R. N.—Mrs. C. M. L. Calvert, Banwell Castle, Banwell, Somerset, for **Banwell Rufus.**

Class 207.—*Dexter Cows, in-milk, born in or before* 1926.

1660 I. (£15, R. N. for Champion,[1] & R. N. for Champion.[2])—Miss Dora Box, Darlingscote, Shipston-on-Stour, for **Wightwick Dot** 3702, born April 26, 1923, calved May 19, 1930; *s.* Oakridge Pat 673, *d.* Wightwick Daisy 2542 F.S.

1663 II. (£10.)—Mrs. T. H. Peyton, Colomendy, Mold, for **Gaynes Gay** 3800, born March 14, 1925, calved Feb. 5, 1930, bred by the Hon. Gerald Wellesley and the Hon. Mrs. Duberly, Gaynes Hall, Huntingdon; *s.* Cobham Blacksmith 727, *d.* La Mancha Liz 2357 F.S.

1658 III. (£5.)—Miss Dora Box, for **Brokenhurst Penelope 3rd** 3075, born April 3, 1922, calved Oct. 19, 1929, bred by Lady Kathleen Hare, Brokenhurst Park, Brockenhurst; *s.* Brokenhurst Morilla 651, *d.* Harley Penelope 1768.

1659 R. N.—Miss Dora Box, for **Wightwick Dolly 2nd.**

H. C.—1661. C.—1662.

Class 208.—*Dexter Heifers, in-milk to first calving, born in* 1927 *or* 1928.

1664 I. (£15.)—Mrs. C. M. L. Calvert, Banwell Castle, Banwell, Somerset, for **Banwell Opaline** 4056, born April 8, 1928, calved May 9, 1930; *s.* Brentmoor Bracken 874, *d.* Hookstile Opaline 3478 *by* Fillongley Forester 630.

1665 II. (£10.)—Mrs. Ernest Johnson, Ashton Hayes, Chester, for **Ashtonhayes Faidnait** 4049, born March 23, 1928, calved June 28, 1930; *s.* Grinstead Artful 955, *d.* Freshford Foxglove 3966 *by* Fillongley Forest Freebooter 786.

1666 III. (£5.)—Mrs. T. H. Peyton, Colomendy, Mold, for **Colomendy Gay** 4187, born May 23, 1927, calved March 8, 1930; *s.* Grinstead Tony 841, *d.* Gaynes Gay 3800 *by* Cobham Blacksmith 727.

Class 209.—*Dexter Heifers, not in-milk, born in* 1928 *or* 1929.[3]

1672 I. (£15.)—Mrs. Ernest Johnson, Ashton Hayes, Chester, for **Ashtonhayes Gundred** 4163, born June 17, 1929; *s.* Grinstead Watersprite 928, *d.* Bourton Hill Gipsy Love 3226 *by* Bourton Hill Jock 718.

1675 II. (£10.)—Mrs. Humphrey R. Pelly, Lyndsays Farm, Ingatestone, for **Magnolia of Lyndsays** 4212, born May 16, 1929, bred by A. Taylor, Fitlocks, Cheveley, Newmarket; *s.* Ratcliffe Pioneer 977, *d.* Matty 4213 *by* Lyndsays Matador 963.

1668 III. (£5.)—Mrs. C. M. L. Calvert, Banwell Castle, Banwell, Somerset, for **Banwell Sal 3rd** 4058, born July 19, 1928; *s.* Ratcliffe Goldsmith 976, *d.* Attington Sal 3727 *by* Speldhurst Bellows 803.

1669 IV. (£4.)—Mrs. C. M. L. Calvert, for **Banwell Sal 4th**, born July 7, 1929; *s.* Ratcliffe Goldsmith 976, *d.* Attington Sal 3727 *by* Speldhurst Bellows 803.

1667 R. N.—Miss Dora Box, Darlingscote, Shipston-on-Stour, for **Wightwick Baby 2nd.**

H. C.—1670. C.—1676.

Milk Yield Classes.

Class 210.—*Dairy Shorthorn Cows or Heifers.*

1010 I. (£15.)—Alfred Luckin, for **Orfold Fancy 13th.** (See Class 141.)

1019 II. (10.)—Lord Henry C. Bentinck, Underley Hall, Kirkby Lonsdale, for 66999 **Sybil Grey**, roan, born April 10, 1924, calved June 7, 1930, bred by J. Robson, Harberwain, Shap; *s.* Leeming Politician 173389, *d.* 7296 Lucy Grey *by* Recorder 144767.

1022 III. (£5.)—Edmond Hall, Torrisholme Hall, Morecambe, Lancs, for 58137 **Beaumont Mary 3rd**, red and little white, born June 21, 1924, calved June 23, 1930, bred by W. Bateman & Son, Beaumont Grange, Halton, Lancs; *s.* Kelmscott Imperialist 30th 156821, *d.* 505 Beaumont Mary *by* Yeldersley Darlington Premier 123740.

1066 IV. (£4.)—The Duke of Westminster, G.C.V.O., D.S.O., Eaton Hall, Chester, for 92560 **Eaton Princess Gift 5th**, red roan, born June 3, 1926, calved June 9, 1930; *s.* Eaton Ruby Prince 198323, *d.* 44093 Eaton Princess Gift 2nd *by* Lock Baronet 164873.

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[1] Silver Challenge Cup given by the Dexter Cattle Society for the best animal.

[2] Silver Challenge Breeders' Bowl given through the Dexter Cattle Society for the best animal already registered in the Dexter Herd Book, and which is the progeny of sire and dam already registered.

[3] Prizes, except Fourth, given by the Dexter Cattle Society.

1001 V. (£3.)—W. R. C. ASHBY, Fen Pond Farm, Ightham, Kent, for 62576 **Southernby Maid**, red, born March 24, 1923, calved May 20, 1930, bred by J. W. Hewson, Southernby Hall, Hesket Newmarket, Wigton; *s.* Ireby Brilliant 164241, *d.* Ling Maiden *by* Keir Broncho 137255.

1067 R. N.—THE DUKE OF WESTMINSTER, G.C.V.O., D.S.O., for **Eaton Rosalind 4th.**

H. C.—1020, 1039, 1065.

Class 211.—*Lincolnshire Red Shorthorn Cows or Heifers.*

1127 I. (£15, & R. N. for Champion.[1])—FRANK SAINSBURY, for **Scothern Charm.** (See Class 149.)

1126 II. (£10.)—JOHN EVENS & SON, for **Burton Jewess 5th.** (See Class 149.)

1124 III. (£5.)—JOHN EVENS & SON, for **Burton Fillpail 8th.** (See Class 149.)

1125 R. N.—JOHN EVENS & SON, for **Burton Irene 2nd.**

H. C.—1118.

Class 213.—*Red Poll Cows or Heifers.*

1187 I. (£15.)—MRS. R. M. FOOT, White Hill, Berkhamsted, Herts, for 33536 **Basildon Rosemary 2nd**, born Feb. 18, 1924, calved June 6, 1930, bred by Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading; *s.* Hanningfield Conductor 12646, *d.* 28491 Basildon Rosebloom *by* Sudbourne Miner 11492.

1193 II. (£10.)—CAPT. ALAN RICHARDSON, Seven Springs, Cheltenham, for 33144 **Seven Springs Quinine**, born Oct. 12, 1923, calved March 15, 1930; *s.* Knepp Ajax 11597, *d.* 30380 Seven Springs Quest *by* Harefield Clinker 11000.

1181 III. (£5.)—LT.-COL. SIR MERRIK R. BURRELL, BART., C.B.E., for **Knepp Prudence 4th.** (See Class 161.)

1198 IV. (£4.)—MRS. M. M. FITZGERALD, for **Marsden Mimulus.** (See Class 162.)

1199 R. N.—JOHN GEORGE GRAY, for **Polstead Prolific.** (See Class 162.)

Class 214.—*Blue Albion Cows or Heifers.*

1263 I. (£15.)—ARNOLD GILLETT, Ridgewood, Chorley, Lancs, for **Brampton Jewel** 2738, age and breeder unknown, calved June 9, 1930.

1265 II. (£10.)—C. H. WEBSTER, Ivonbrook Farm, Grange Mill, Wirksworth, Derbyshire, for **Ivonbrook Fashion** 10406, born June 8, 1925, calved June 15, 1930; *s.* Bank Conqueror 189, *d.* Handale Joyce 4278.

1262 III. (£5.)—T. H. SWIRE & SONS, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Park Rose** 5966, age and breeder unknown, calved June 8, 1930.

Class 215.—*British Friesian Cows or Heifers.*

1327 I. (£15, & Champion.[1])—E. G. BARTON, Saundby, Retford, Notts, for **Chaddesley Hedge Rose 2nd** 69470, born April 16, 1923, calved June 22, 1930, bred by J. H. Bean, Chaddesley Corbett, Kidderminster; *s.* Chaddesley Comrade 13497, *d.* Chaddesley Hedge Rose 43954 *by* Glenanne Pioneer 7923.

1331 II. (£10.)—CAPT. H. DOUGLAS, for **Lowhouse Pangirl.** (See Class 176.)

1349 III. (£5.)—LORD RAYLEIGH, Terling Place, Chelmsford, for **Terling Trix 11th** 99292, born Feb. 12, 1925, calved June 7, 1930; *s.* Terling (imp. 1922) Marthus 21533, *d.* Terling Trix 4th 31214 *by* Terling Dutchman 5643 P.I.

1347 IV. (£4.)—BERTRAM PARKINSON, for **Creskeld Honeysuckle.** (See Class 177.)

1348 V. (£3.)—LORD RAYLEIGH, for **Terling Norah 20th.** (See Class 177.)

1340 R. N.—LORD RAYLEIGH, for **Terling Poverty 8th.**

Class 216.—*Ayrshire Cows or Heifers.*

1454 I. (£15, & Champion.[2])—DAVID WALLACE, Auchenbrain, Mauchline, Ayrshire, for **Auchenbrain Big Kate 13th** 92360, born Feb. 22, 1923, calved June 12, 1930; *s.* South Craig Footprint 19958, *d.* Auchenbrain Big Kate 6th 47505 *by* Auchenbrain Exchange 10208.

1444 II. (£10, & R. N. for Champion.[2])—JONES & WATSON, for **Auchenbrain Miss Craig 34th.** (See Class 184A.)

1434 III. (£5.)—MATTHEW COCHRANE, for **Morton Mains Swannie.** (See Class 184A.)

1455 IV. (£4.)—DAVID WALLACE, for **Auchenbrain Miss Craig 25th** 83017, born April 17, 1922, calved May 22, 1930; *s.* South Craig Footprint 19958, *d.* Auchenbrain Miss Craig 2nd 54217 *by* Lessnessock Golden Love 11003.

Class 217.—*Guernsey Cows or Heifers.*

1505 I. (£15.)—THE HON. MRS. WATERS, for **Poltimore Gipsy Queen.** (See Class 189.)

1497 II. (£10.)—GEORGE BLIGHT, for **Rosewarne Buttercup.** (See Class 189.)

1499 III. (£5.)—W. DUNKELS, for **Fernhill Rose.** (See Class 189.)

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[1] Champion Prize of £30, with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Dairy Shorthorn, Lincolnshire Red Shorthorn, Red Poll, Blue Albion, and British Friesian Milk Yield Competitions.

[2] Champion Prize of £20, with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Ayrshire, Guernsey and Jersey Milk Yield Competitions.

Class 218.—*Jersey Cows or Heifers.*

1550 I. (£15.)—Mrs G. J. Austin, Ellern Mede, Totteridge, Herts, for **Moulton Ruby** (Vol. 24, p. 391), whole colour, born Sept. 2, 1920, calved March 1, 1930, bred by H. Manfield, Moulton Grange, Northampton; *s.* Dairylike's Majesty 12583, *d.* Ruby Darling *by* Fyvie Baron 12302.
1559 II. (£10.)—Capt. F. B. Imbert-Terry, M.C., Blue Hayes, Broad Clyst, Devon, for **Blue Hayes Bannock** 1520, whole colour, born Aug. 10, 1922, calved Feb. 25, 1930, *s.* Pro-Bacchus 13085, *d.* Blue Hayes Bait *by* Hot Spur 12657.
1557 III. (£5.)—Mrs. Evelyn, Wotton House, Dorking, for **Wotton Moonlit Sands** 7320, whole colour, born June 19, 1925, calved April 6, 1930; *s.* Henbury Moonlight 13301, *d.* Wotton Sand Maiden *by* Wotton Sandy 12814.
1566 IV. (£4.)—H. Cecil Pelly, for **Flashlight's Josy.** (See Class 196.)
1560 V. (£3.)—Capt. F. B. Imbert-Terry, M.C., for **Blue Hayes Sporran** (Vol. 32, p. 280), whole colour, born Dec. 16, 1917, calved May 11, 1930; *s.* Hotspur 12657, *d.* Blue Hayes Scottie *by* Simpkins Chief 10446.
1555 R. N.—Miss Dronsfield, Norley Hall, Norley, Frodsham, for **Norley Dayfield.**
H. C.—1581.

Class 219.—*Kerry Cows or Heifers.*

[No Award.]

Class 220.—*Dexter Cows or Heifers.*

1659 I. (£15, Champion,[1] & Champion.)[2]—Miss Dora Box, Darlingscote, Shipston on-Stour, for **Wightwick Dolly 2nd** 4042, born June 1, 1924, calved Feb. 28, 1930; *s.* Wightwick Prince 899, *d.* Wightwick Dolly 3205 *by* Oakridge Pat 673.

Butter Tests.

Class 221a.—*Cows exceeding* 900 *lb. live weight.*

1327 I. (£15.)—E. G. Barton, for **Chaddesley Hedge Rose 2nd.** (See Class 215)
1559 II. (£10, & G.M.[3])—Capt. F. B. Imbert-Terry, M.C., for **Blue Hayes Bannock.** (See Class 218.)
1550 III. (£5, & S.M.[3])—Mrs. G. J. Austin, for **Moulton Ruby.** (See Class 218)
1557 IV. (£4, & B.M.[3])—Mrs. Evelyn, for **Wotton Moonlit Sands.** (See Class 218.)
1124 V. (£3.)—John Evens & Son, for **Burton Fillpail 8th.** (See Class 149.)
1022 R. N.—Edmond Hall, for **Beaumont Mary 3rd.** (See Class 210.)
H. C.—1348.

Class 221b.—*Cows not exceeding* 900 *lb. live weight.*

[No Award.]

GOATS.[4]

Class 222.—*Toggenburg or British Toggenburg Female Goats, in-milk, any age.*

1678 I. (£5, & Champion.[5])—The Misses Window Harrison, Yew Tree Poultry Farm, North Weald, Essex, for **Sandhill Nerine** 574, Toggenburg, born Feb. 25, 1924, kidded Feb. 22, 1930, bred by J. Kidman, Reppington Manor, Gt. Gransden; *s.* Carpentier 525, *d.* Leazes Saleswoman 457 *by* Sandhill Ibex 404.
1682 II. (£3, & R. N. for Champion.[5])—Mrs. F. I. Morcom, Clock House, Bromsgrove, for **Fryston Senna** 540, Toggenburg, born April 29, 1923, kidded Feb. 23, 1930, bred by Mrs. P. Wainwright, Sheepwalks, Pontefract; *s.* Edel 524, *d.* Ballywalter Sarah 356
1683 III. (£2, & Champion.[6])—Miss Pope, Bashley Lodge, New Milton, Hants, for **Layland Pearl** 8203, British Toggenburg, born June 10, 1927, kidded March 20, 1930, bred by Mrs. Vernon; *s.* Fryston Sprig 620, *d.* Ridgeway Ring o' Roses 7068 *by* Didgemere Daniel.
1679 R. N. & R. N. for Champion.)[6]—Mrs. F. I. Morcom, for **Ciceter Quince**
H. C.—1677.

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[1] Champion Prize of £10, with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Kerry and Dexter Milk Yield Competitions.

[2] Perpetual Silver Challenge Cup given by the Dexter Cattle Society for the Dexter Cow gaining the highest number of points.

[3] Gold Medal (or £10 in money), Silver Medal and Bronze Medal, given by the English Jersey Cattle Society for the three Jersey Cows obtaining the greatest number of points in the Butter Tests.

[4] £30 towards these prizes were given by the British Goat Society.

[5] Breed Challenge Certificate given by the British Goat Society for the best Toggenburg Female Goat, over 2 years old.

[6] Breed Challenge Certificate given by the British Goat Society for the best British Toggenburg Female Goat, over 2 years old.

Class 223.—*Saanen or British Saanen Female Goats, in-milk, any age.*

1685 **I. (£5, & Champion,[1] & R. N. for Champion.[2])**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Destiny** 8210, British Saanen, born April 1, 1927, kidded March 13, 1930; *s.* Broxbourne Gold 62, *d.* Didgemere Deutchia 5957 *by* Didgemere Duncan 5556.

1688 **II. (£3, & R. N. for Champion.[1])**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Pensive** 6988, British Saanen, born April 6, 1925, kidded March 10, 1930; *s.* Ridgeway Rumpelstiltskin 6536, *d.* Theydon Peggie 5284 *by* Champion Proud 2853.

1687 **III. (£2.)**—Mrs. F. I. Morcom, Clock House, Bromsgrove, for **Cornish Prophetess** 7480, British Saanen, born Feb. 1, 1926, kidded Jan. 29, 1930; *s.* Ridgeway Ranunculus 5528, *d.* Cornish Le Fay 5354.

Class 224.—*Anglo-Nubian Female Goats, in-milk, any age.*

1691 **I. (£5, & Champion.)[3]**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Binkie** 1842, born May 1, 1927, kidded March 12, 1930; *s.* Theydon Beau Brocade 1677, *d.* Theydon Butterfly 1615 *by* Sadberge Marcus Coriolanus 1003.

1692 **II. (£3, & R. N. for Champion.[3])**—Miss K. Pelly, for **Theydon Briar** 1910, born March 20, 1928, kidded March 29, 1930; *s.* Theydon Barber 1803, *d.* Theydon Beloia 1739 *by* Theydon Bendigo 1709.

1689 **III. (£2.)**—Miss K. Pelly, for **Theydon Barbarette** 1802, born Feb. 17, 1927, kidded May 1, 1930; *s.* Herne Bay President 1553, *d.* Wrentham Barbara 1635 *by* Sadberge Marcus Coriolanus 1003.

Class 225.—*British Alpine Female Goats, in-milk, any age.*

1695 **I. (£5, Champion,[4] Champion,[5] & Champion.)[6]**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Druidess** 8432, born April 29, 1927, kidded Aug. 15, 1929; *s.* Leazes Kicksy Wicksy 5944, *d.* Priestess of Bashley 6927 *by* Didgemere Dictator 6816.

1693 **II. (£3, R. N. for Champion,[4] R. N. for Champion,[5] & R.N. for Champion.[6])**—Mrs. Arthur Abbey, for **Didgemere Delysia** 7714, born March 6, 1926, kidded April 18, 1930; *s.* Didgemere Daniel 5955, *d.* Didgemere Dusky 5083 *by* Prophet of Bashley 3775.

Class 226.—*Female Goats, in-milk, any age, any other variety.*

1696 **I. (£5, & Champion.[2])**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Dingus** 8828, British, born March 3, 1928, kidded April 4, 1930; *s.* Pan of Bashley 8055, *d.* Didgemere Ding 5959 *by* Didgemere Duncan 5556.

1700 **II. (£3.)**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Pauline** 8509, British, born Feb. 6, 1928, kidded April 2, 1930; *s.* Ridgeway Rodrigo 8126, *d.* Theydon Pensive 6988 *by* Ridgeway Rumpelstiltskin 6536.

1698 **III. (£2.)**—Mrs. F. I. Morcom, Clock House, Bromsgrove, for **Cornish Maiden** 8028, British, born Feb. 21, 1927, kidded Jan. 23, 1930; *s.* Fryston Straitlace 568, *d.* Cornish Maid 6783.

1699 **R. N.**—Mrs. F. I. Morcom, for **Cornish Witch.**

C.—1697.

Class 227.—*Toggenburg, British Toggenburg, Saanen or British Saanen Goatlings, over* 1 *but not exceeding* 2 *years old.*

1702 **I. (£5, & R. N. for Champion.[7])**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Dollar** 9626, British Toggenburg, born May 8, 1929; *s.* Pan of Bashley 8055, *d.* Didgemere Doll 7723 *by* Prophet of Bashley 3775.

1707 **II. (£3.)**—Miss Pope, Bashley Lodge, New Milton, Hants, for **Mostyn Mandoline** 9040, British Saanen, born Jan. 15, 1929, bred by Miss Mostyn Owen, Belmont, Starbeck, Harrogate; *s.* Didgemere Aristocrat 8207, *d.* Mostyn Music 8058 *by* Didgemere Robert 7713.

1703 **III. (£2.)**—Mrs. Arthur Abbey, for **Didgemere Sonia** 129, Saanen, born March 3, 1929; *s.* Ridgeway Ruric 112, *d.* Broxbourne Blanche 101 *by* Broxbourne Gold 62.

1704 **R. N.**—Miss Alexander, Byards Lodge, Knaresborough, for **Stockwell Corinna.**

C.—1705.

Class 228.—*Anglo-Nubian Goatlings, over* 1 *but not exceeding* 2 *years old.*

1710 **I. (£5.)**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Adelaide** 1996, born March 27, 1929; *s.* Theydon Blarney 1908, *d.* Theydon Almeda 1766 *by* Theydon Banjo 1574.

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[1] Breed Challenge Certificate given by the British Goat Society for the best British Saanen Female Goat, over 2 years old.

[2] Challenge Certificate given by the British Goat Society for the best Dual Purpose Goat over 2 years old, that has borne a kid.

[3] Breed Challenge Certificate given by the British Goat Society for the best Anglo-Nubian Female Goat, over 2 years old.

[4] Breed Challenge Certificate given by the British Goat Society for the best British Alpine Female Goat, over 2 years old.

[5] Challenge Certificate given by the British Goat Society for the best Female Goat over 2 years old that has borne a kid.

[6] Bronze Medal given by the British Goat Society for the best Female Goat.

[7] Bronze Medal given by the British Goat Society for the best Goatling.

1708 II. (£3.)—Mrs. K. Carswell, The Mount, Kinnerton, Chester, for **Theydon Aconite** 1939, born Feb. 7, 1929, bred by Miss K. Pelly, Theydon Place, Epping; *s.* Theydon Bertrano 1725, *d.* Theydon Antionette 1815 *by* Theydon Banjo 1574.

1709 III. (£2.)—Mrs. K. Carswell, for **Tinklebell** 1963, born March 1, 1929, bred by Mrs. Alder, Stonebridge House, Chester; *s.* Mersey Dick 1825, *d.* Wrentham Penelope 1521 *by* Theydon Bendigo 1709.

Class 229.—*Goatlings, any other variety, over 1 but not exceeding 2 years old.*

1712 I. (£5, & Champion.[1])—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Dhoranne** 9138, British Alpine, born March 7, 1929; *s.* Didgemere Doctor 8436, *d.* Didgemere Dhora 8434 *by* Didgemere Daniel 5955.

1715 II. (£3.)—Miss C. Chamberlain, Westons, Lyndhurst, Hants, for **Whimsy of Westons** 9012, British Alpine, born Feb. 23, 1929; *s.* Didgemere Angus 7161, *d.* Whimsical of Westons 7051 *by* Didgemere Dictator 6816.

1713 III. (£2.)—Miss C. Chamberlain, for **Wavelet of Westons** 9377, Anglo-Nubian Swiss, born June 21, 1929; *s.* Springfield Count 8514, *d.* Worthy of Westons 7969 *by* Poet of Bashley 7457.

Class 230.—*Female Kids, any variety, not over 1 year old.*

1716 I. (£5.)—Miss Alexander, Byards Lodge, Knaresborough, for **Stockwell Honeysuckle** 9646, British, born Nov. 17, 1929; *s.* Didgemere Fothergill 7720, *d.* Stockwell Honey 7685 *by* Didgemere Viscount 7169.

1724 II. (£3.)—Miss Pope, Bashley Lodge, New Milton, Hants, for **Proffer of Bashley** 9532, British, born Feb. 22, 1930; *s.* Raydon Pickle 9232, *d.* Proof of Bashley 8487 *by* Feltham Asterus 8117.

1717 III. (£2.)—Miss C. Chamberlain, Westons, Lyndhurst, Hants, for **Wakeful of Westons** 9558, British Toggenburg, born March 8, 1930: *s.* Raydon Pickle 9232, *d.* Wistful of Westons 4641 *by* Edenstead Pluck 3007.

1723 R. N.—Mrs. F. I. Morcom, Clock House, Bromsgrove, for **Cornish Rolypoly.**

H. C.—1718, 1722.

Milk Yield Classes.

Class 231.—*Milk Yield Class, Quality, open to animals entered in Classes* 222 *to* 226.

1696 I. (£5.)—Mrs. Arthur Abbey, for **Didgemere Dingus.** (See Class 226.)

1685 II. (£3, Champion,[2] & (with 1702) R. N. for Champion.[3])—Mrs. Arthur Abbey, for **Didgemere Destiny.** (See Class 223.)

1698 III. (£2.)—Mrs. F. I. Morcom, for **Cornish Maiden.** (See Class 226.)

1700 IV. (£1.)—Miss K. Pelly, for **Theydon Pauline.** (See Class 226.)

1688 V. (10s., & R. N. for Cup.[2])—Miss K. Pelly, for **Theydon Pensive.** (See Class 223)

1683 R. N.—Miss Pope, for **Layland Pearl.** (See Class 222.)

H. C.—1689, 1693, 1695. C.—1678, 1691, 1699.

1689 Cup.[4]—Miss K. Pelly, for **Theydon Barbarette.** (See Class 224.)

1691 R. N. for Cup.[4]—Miss K. Pelly, for **Theydon Binkie.** (See Class 224.)

Class 232.—*Milk Yield Class, Quantity, open to animals entered in Classes* 222 *to* 226.

1696 I. (£5.)—Mrs. Arthur Abbey, for **Didgemere Dingus.** (See Class 226.)

1683 II. (£3.)—Miss Pope, for **Layland Pearl.** (See Class 222.)

1685 III. (£2.)—Mrs. Arthur Abbey, for **Didgemere Destiny.** (See Class 223.)

1688 IV. (£1.)—Miss K. Pelly, for **Theydon Pensive.** (See Class 223.)

1700 V. (10s.)—Miss K. Pelly, for **Theydon Pauline.** (See Class 226.)

1695 R. N., & (with 1712) Champion,[3] & Champion.[5]—Mrs. Arthur Abbey, for **Didgemere Druidess.** (See Class 225.)

H. C.—1693, 1698. C.—1699.

1693 R. N. for Champion.[5]—Mrs. Arthur Abbey, for **Didgemere Delysia.** (See Class 225.

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[1] Bronze Medal given by the British Goat Society for the best Goatling.

[2] The "Chamberlain" Challenge Cup, given by the British Goat Society, for the Goat gaining the highest number of points in Inspection and Milking. The goat must be bred by exhibitor, entered in the Saanen or British Saanen section of the Herd Book, and have obtained an award in the Inspection Class.

[3] The "Dewar" Challenge Cup given through the British Goat Society for the exhibitor showing a Female Goat in-milk, and a Goatling, under certain conditions.

[4] The "Pomeroy" Challenge Cup given through the British Goat Society for the best Anglo-Nubian entered in the Anglo-Nubian section of the Society's Herd Book winning the highest number of points in the Milking Classes.

[5] The "Abbey" Challenge Cup given through the British Goat Society for the British Alpine Goat gaining the highest number of points in Inspection and Milking. The goat must be bred by exhibitor, entered in the British Alpine section of the Herd Book, and have obtained an award in the Inspection Class.

SHEEP.

Oxford Downs.

Class 233.—*Oxford Down Shearling Rams.*

1727 **I.** (£10, Champion,[1] & R. N. for Champion.[2])—W. H. Hitch, Elkstone Manor, Cheltenham.
1730 **II.** (£5), 1732 **III.** (£3), & 1733 **IV.** (£2.)—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
1726 R. N.—E. G. Clifford, Manley Farm, Quenington, Cirencester.
H. C.—1725.

Class 234.—*Oxford Down Ram Lambs.*

1735 **I.** (£10, & R. N. for Champion.[1])—E. G. Clifford, Manley Farm, Quenington, Cirencester.
1734 **II.** (£5.)—Lawrence B. Akers, Litchfield Farm, Enstone, Oxford.
1738 **III.** (£3), & 1737 R. N.—Hobbs & Davis, Kelmscott, Lechlade.
H. C.—1740.

Class 235.—*Three Oxford Down Ram Lambs.*

1741 **I.** (£10.)—Lawrence B. Akers, Litchfield Farm, Enstone, Oxford.
1744 **II.** (£5.)—Hobbs & Davis, Kelmscott, Lechlade.
1743 **III.** (£3.)—Major R. F. Fuller, Great Chalfield, Melksham, Wiltshire.
H. C.—1746.

Class 236.—*Three Oxford Down Shearling Ewes.*

1748 **I.** (£10, Champion,[2] & Champion.[3])—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
1747 **II.** (£5.)—W. H. Hitch, Elkstone Manor, Cheltenham.

Class 237.—*Three Oxford Down Ewe Lambs.*

1754 **I.** (£10, & R. N. for Champion.[3])—W. F. G. Watts, Elsfield, Oxford.
1750 **II.** (£5.)—E. G. Clifford, Manley Farm, Quenington, Cirencester.
1751 **III.** (£3.)—Major R. F. Fuller, Great Chalfield, Melksham, Wiltshire.
H. C.—1749, 1752.

Shropshires.

Class 238.—*Shropshire Two Shear Rams.*

1755 **I.** (£10, & R. N. for Champion.[4])—Thomas A. Buttar, Corston, Coupar Angus, for **Corston Alloa.**
1756 **II.** (£5.)—John Minton, Dryton, Wroxeter, Shrewsbury, for **Dryton King.**
1757 **III.** (£3.)—E. Craig Tanner, Eyton-on-Severn, Wroxeter, for **Eyton Acme.**

Class 239.—*Shropshire Shearling Rams.*

1767 **I.** (£10, & Champion[4]), and 1768 **II.** (£5.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
1766 **III.** (£3), and 1765 **V.** (£1.)—John Minton, Dryton, Wroxeter, Shrewsbury.
1771 **IV.** (£2.)—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
1770 R. N.—Major J. N. Ritchie, Tern, Wellington, Shropshire.
H. C.—1759, 1763.

Class 240.—*Three Shropshire Shearling Rams.*[5]

1777 **I.** (£10, & Champion.[6])—N. J. Nunnerley, Tern Hill House, Market Drayton.
1778 **II.** (£5.)—Major J. N. Ritchie, Tern, Wellington, Shropshire.
1776 **III.** (£3.)—John Minton, Dryton, Wroxeter, Shrewsbury.
1775 R. N.—Mrs. Inge, Thorpe Hall, Tamworth.
H. C.—1779.

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[1] The "Chalfield" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association for the best Male exhibit.

[2] The "Northwick" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association for the best exhibit.

[3] The "Great Rissington Hill" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association for the best Female exhibit.

[4] Champion Silver Medal given by the Shropshire Sheep Breeders' Association for the best Ram in Classes 238 and 239.

[5] Prizes given by the Shropshire Sheep Breeders' Association.

[6] The "Hardwicke" Perpetual Silver Challenge Cup, given through the Shropshire Sheep Breeders' Association, for the best exhibit.

Class 241.—*Three Shropshire Ram Lambs.*

1781 I. (£10.)—Mrs. Brian Bibby, Hardwicke Grange, Shrewsbury.
1782 II. (£5.)—William Everall, Shrawardine Castle, Shrewsbury.
1784 III. (£3.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
1785 R. N.—Major J. N. Ritchie, Tern, Wellington, Shropshire.
H. C.—1783.

Class 242.—*Three Shropshire Shearling Ewes.*

1789 I. (£10, & R. N. for Champion [1]), and 1790 II. (£5.)—Mrs. Inge, Thorpe Hall, Tamworth.
1791 III. (£3.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
1787 R. N.—Lt.-Col. E. C. Atkins, Stretton House, Stretton Baskerville, Hinckley.
H. C.—1788.

Class 243.—*Three Shropshire Ewe Lambs.*

1797 I. (£10.)—Major J. N. Ritchie, Tern, Wellington, Shropshire.
1794 II. (£5.)—William Everall, Shrawardine Castle, Shrewsbury.
1795 III. (£3.)—Mrs. Inge, Thorpe Hall, Tamworth.
1793 R. N.—Mrs. Brian Bibby, Hardwicke Grange, Shrewsbury.
H. C.—1796.

Southdowns.

Class 244.—*Southdown Two Shear Rams.*

1806 I. (£10, & R. N. for Champion.[2])—J. Pierpont Morgan, Wall Hall, Watford, for Aldenham 441 of 1928 19473.
1804 II. (£5.)—Lady Ludlow, Luton Hoo, Luton, for Luton Loo 119 of 1928 19423.
1803 III. (£3.)—John Langmead, Northwood, Ford, Arundel, for Ford 221 of 1928 19325.
1801 IV. (£2.)—Lady Fitzgerald, Buckland, Faringdon, for Buckland 36 of 1928.
1807 R. N.—J. Pierpont Morgan, for Aldenham 460/1928.
H. C.—1800. C.—1808.

Class 245.—*Southdown Shearling Ram.*

1822 I. (£10, Champion,[2] & Champion [3]), and 1823 IV. (£2.)—J. Pierpont Morgan, Wall Hall, Watford.
1816 II. (£5.)—John Langmead, Northwood, Ford, Arundel.
1813 III. (£3.)—Lady Fitzgerald, Buckland, Faringdon.
1818 V. (£1.)—Lady Ludlow, Luton Hoo, Luton.
1811 R. N.—The Duke of Bedford, K.G., Woburn Abbey, Bletchley.
H. C.—1809, 1814. C.—1812, 1819.

Class 246.—*Three Southdown Shearling Rams.*[4]

1831 I. (£10, & R. N. for Champion.[5])—Lady Ludlow, Luton Hoo, Luton.
1830 II. (£5.)—John Langmead, Northwood, Ford, Arundel
1828 III. (£3.)—The Duke of Bedford, K.G., Woburn Abbey, Bletchley.
1832 R. N.—J. Pierpont Morgan, Wall Hall, Watford.
H. C.—1827.

Class 247.—*Three Southdown Ram Lambs.*

1843 I. (£10.)—William H. Pitts, Woodhorn, Oving, Chichester.
1840 II. (£5.)—Lady Ludlow, Luton Hoo, Luton.
1839 III. (£3.)—John Langmead, Northwood, Ford, Arundel.
1837 IV. (£2.)—Lady Fitzgerald, Buckland, Faringdon.
1836 R. N.—The Earl of Derby, K.G., Hatchfield Farm, Newmarket.
H. C.—1842. C.—1834, 1844.

Class 248.—*Three Southdown Shearling Ewes.*

1845 I. (£10, & Champion.[5])—His Majesty The King, Sandringham, Norfolk.
1849 II. (£5.)—Lady Ludlow, Luton Hoo, Luton.
1850 III. (£3.)—J. Pierpont Morgan, Wall Hall, Watford.
1846 R. N.—The Duke of Bedford, K.G., Woburn Abbey, Bletchley.
H. C.—1852. C.—1848.

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[1] The "Hardwicke" Perpetual Silver Challenge Cup, given through the Shropshire Sheep Breeders' Association, for the best exhibit.

[2] Champion Gold Medal, or £10 10s in cash, given by the Southdown Sheep Society for the best Ram in Classes 244 and 245.

[3] The "Northumberland" Perpetual Silver Challenge Cup given through the Southdown Sheep Society for the best exhibit.

[4] Prizes given by the Southdown Sheep Society.

[5] Champion Silver Medal, or £1 in cash, given by the Southdown Sheep Society for the best Pen of Ewes or Ewe Lambs.

Class 249.—*Three Southdown Ewe Lambs.*

1861 I. (£10, & R. N. for Champion.[1])—J. Pierpont Morgan, Wall Hall, Watford.
1854 II. (£5.)—His Majesty The King, Sandringham, Norfolk.
1858 III. (£3.)—John Langmead, Northwood, Ford, Arundel.
1856 IV. (£2.)—The Earl of Derby, K.G., Hatchfield Farm, Newmarket.
1860 R. N.—E. Macintosh, Boxhill Farm, Dorking.
H. C.—1862. C.—1855, 1859.

Hampshire Downs.

Class 250.—*Hampshire Down Shearling Rams.*

1876 I. (£10.)—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
1868 II. (£5.)—Major V. S. Bland, The Warren, Aldbourne, Wilts.
1873 III. (£3.)—Major and Mrs. Jervoise, Herriard Park, Basingstoke.
1864 IV. (£2.)—James Herbert Benyon, Englefield House, Reading, for **Englefield Amport 2nd.**
1872 V. (£1.)—James Goldsmith, Blendworth, Cosham, Hants.
H. C.—1865, 1875.

Class 251.—*Hampshire Down Ram Lambs.*

1877 I. (£10.)—James Herbert Benyon, Englefield House, Reading.
1884 II. (£5.)—A. Thomas Loyd, Lockinge House, Wantage, Berks.
1891 III. (£3.)—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
1881 IV. (£2.)—Major V. S. Bland, The Warren, Aldbourne, Wilts.
1878 V. (£1.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
1885 R. N.—J. Onslow Fane, Steventon Manor, Hants.
H. C.—1879, 1880, 1889. C.—1882, 1890.

Class 252.—*Three Hampshire Down Ram Lambs.*

1893 I. (£10, & Champion.[2])—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
1894 II. (£5.)—Major V. S. Bland, The Warren, Aldbourne, Wilts.
1899 III. (£3.)—Major and Mrs. Jervoise, Herriard Park, Basingstoke.
1901 IV. (£2.)—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
1898 R. N.—James Goldsmith, Blendworth, Cosham, Hants.
H. C.—1892, 1897, 1900. C.—1895, 1896.

Class 253.—*Three Hampshire Down Shearling Ewes.*

1906 I. (£10.)—E. Clifton-Brown, Burnham Grove, Burnham, Bucks.
1902 II. (£5), and 1903 III. (£3.)—James Herbert Benyon, Englefield House, Reading.
1908 R. N.—J. Onslow Fane, Steventon Manor, Hants.
H. C.—1905.

Class 254.—*Three Hampshire Down Ewe Lambs.*

1913 I. (£10, & R. N. for Champion.[2])—E. Clifton-Brown, Burnham Grove, Burnham Bucks.
1910 II. (£5.)—James Herbert Benyon, Englefield House, Reading.
1915 III. (£3.)—James Goldsmith, Blendworth, Cosham, Hants.
1911 IV. (£2.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
1919 R. N.—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
H. C.—1912. C.—1914, 1916, 1917, 1918.

Suffolks.

Class 255.—*Suffolk Two Shear Rams.*

1922 I. (£10.)—Hollesley Bay Labour Colony, Hollesley, Woodbridge, for **Grange Duke Walton 1st** 20783, bred by H. E. Smith, Walton, Suffolk.
1925 II. (£5.)—Stuart Paul, Kirton Lodge, Ipswich, for **Harepark Prizewinner** 20880, bred by Capt. A. Cunningham-Reid, Hare Park, Newmarket.
1920 III. (£3.)—Major R. L. Barclay, C.B.E., Higham, Bury St. Edmunds, for **Higham Superior 1st** 20601.
1923 R. N.—W. C. Jackson, Fowlmere, Royston, for **Fowlmere Eagle.**
H. C.—1926. C.—1924.

Class 256.—*Suffolk Shearling Rams.*

1933 I. (£10.)—Hollesley Bay Labour Company, Hollesley, Woodbridge, for **Higham Superiority** 21254, bred by Major R. L. Barclay, Higham, Bury St. Edmunds.

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[1] Champion Silver Medal, or £1 in cash, given by the Southdown Sheep Society for the best Pen of Ewes or Ewe Lambs.

[2] Champion Prize of £10 given by the Hampshire Down Sheep Breeders' Association for the best exhibit.

1938 **II.** (£5.)—SIR PRINCE PRINCE-SMITH, BART, Southburn House, Driffield, for Stetchworth Cutter 21369, bred by the Earl of Ellesmere, Stetchworth Park, Newmarket.
1928 **III.** (£3.)—MAJOR R. L. BARCLAY, C B E, Higham, Bury St. Edmunds, for Foxearth Higham 1st 21064, bred by Ewer & Pawsey, Clay Pits, Foxearth
1929 **IV.** (£2), and 1930 **R.N.**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford, Suffolk
H. C.—1936. **C.**—1935.

Class 257.—*Suffolk Ram Lambs.*

1944 **I.** (£10, & Champion.[1])—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge
1939 **II.** (£5, & R. N. for Champion.[1])—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford
1951 **III.** (£3), and 1950 **IV.** (£2.)—FRANK SAINSBURY, Blunts Hall, Little Wratting, Haverhill
1948 **V.** (£1.)—STUART PAUL, Kirton Lodge, Ipswich.
1949 **R. N.**—SIR PRINCE PRINCE-SMITH, BART, Southburn House, Driffield.
H. C.—1940, 1942. **C.**—1945 1947.

Class 258.—*Three Suffolk Ram Lambs.*[2]

1962 **I.** (£10.)—FRANK SAINSBURY, Blunts Hall, Little Wratting, Haverhill.
1956 **II.** (£5.)—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge.
1955 **III.** (£3.)—G. A. GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.
1953 **IV.** (£2.)—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford, Suffolk.
1961 **R. N.**—SIR PRINCE PRINCE-SMITH, BART, Southburn House, Driffield.
H. C.—1957, 1960. **C.**—1952, 1959

Class 259.—*Three Suffolk Shearling Ewes.*

1970 **I.** (£10.)—SIR PRINCE PRINCE-SMITH, BART., Southburn House, Driffield.
1967 **II.** (£5.)—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge.
1963 **III.** (£3.)—MAJOR R. L. BARCLAY, Higham, Bury St. Edmunds.
1969 **R. N.**—A. PRESTON JONES, Mickleover House, Derby.

Class 260.—*Three Suffolk Ewe Lambs.*

1974 **I.** (£10.)—G. A. GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.
1980 **II.** (£5.)—FRANK SAINSBURY, Blunts Hall, Little Wratting, Haverhill.
1975 **III.** (£3.)—HOLLESLEY BAY LABOUR COMPANY, Hollesley, Woodbridge.
1979 **IV.** (£2.)—SIR PRINCE PRINCE-SMITH, BART, Southburn House, Driffield.
1972 **R. N.**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford, Suffolk.
H. C.—1978.
Cup.[3]—HOLLESLEY BAY LABOUR COLONY.
R. N. for Cup.[3]—FRANK SAINSBURY.

Dorset Downs.

Class 261.—*Dorset Down Rams, Shearling and upwards.*

1981 **I.** (£10.)—DEBENHAM & TORY, Anderson, Blandford, Dorset, for ram, born in 1929.
1982 **II.** (£5.)—MRS. LIONEL DE ROTHSCHILD, Exbury, Southampton, for ram, born in 1929.

Class 262.—*Dorset Down Ram Lambs.*[4]

1985 **I.** (£10, & R. N. for Champion[5]), and 1986 **R. N.**—MRS. LIONEL DE ROTHSCHILD, Exbury, Southampton.
1983 **II.** (£5.)—DEBENHAM & TORY, Anderson, Blandford, Dorset.
1989 **III.** (£3.)—RANDOLPH TORY, Charisworth Manor, Blandford, Dorset.

Class 263.—*Dorset Down Shearling Ewes.*

1991 **I.** (£10, & Champion[5]), and 1990 **R. N.**—DEBENHAM & TORY, Anderson, Blandford.
1992 **II.** (£5), and 1993 **III.** (£3).—MRS. LIONEL DE ROTHSCHILD, Exbury, Southampton.

Dorset Horns.

Class 264.—*Two Dorset Horn Ram Lambs, born on or after November* 1, 1929.[6]

1997 **I.** (£10.)—W. RUPERT TORY, Clenstone Manor, Blandford.
1996 **II.** (£5.)—ERNEST GEORGE HEAL, Newclose Farm, Thorley, Isle of Wight.

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[1] Perpetual Challenge Plate and £5 in cash given by the Suffolk Sheep Society for the best exhibit.

[2] Prizes, except Fourth, given by the Suffolk Sheep Society.

[3] The "Southburn" Silver Challenge Cup given through the Suffolk Sheep Society for the most points awarded in a combination of entries.

[4] Prizes given by the Dorset Down Sheep Breeders' Association.

[5] Champion Prize of £5 given by the Dorset Down Sheep Breeders' Association for the best exhibit.

[6] Prizes given by the Dorset Horn Sheep Breeders' Association.

1995 III. (£3.)—W. R. Elworthy, Southmead, Monkton, Dorchester, for **Monkton No. 287/5971** and **No. 288/5972.**
1994 R. N.—Albert A. Broughton, Impens, North Petherton, Bridgwater.

Class 265.—*Three Dorset Horn Shearling Ewes, born on or after November 1, 1928.*

2001 I. (£10), and 2002 II. (£5.)—W. Rupert Tory, Clenstone Manor, Blandford.
1999 III. (£3.)—Ernest George Heal, Newclose Farm, Thorley, Isle of Wight.
1998 R. N.—W. R. Elworthy, Southmead, Monkton, Dorchester.

Class 266.—*Three Dorset Horn Ewe Lambs, born on or after November 1, 1929.*

2008 I. (£10), and 2009 II. (£5.)—W. Rupert Tory, Clenstone Manor, Blandford.
2006 III. (£3.)—W. R. Elworthy, Southmead, Monkton, Dorchester.
2007 R. N.—Ernest George Heal, Newclose Farm, Thorley, Isle of Wight.

Wiltshire or Western Horns.

Class 267.—*Wiltshire or Western Horn Rams, Two Shear and upwards.*[1]

2010 I. (£10, & R. N. for Champion.[2])—Alan Gowling, Snowford Hall Farm, Leamington Spa, for **Hulcote Stonehenge** 2167, born in 1927, bred by G. Verey, Hulcote, Towcester.
2012 II. (£5.)—W. B. Southernwood, Gubblecote, Tring, for **Upton Supreme** 2122, born in 1927, bred by S. K. Spokes, Upton Lodge, Northampton.
2011 III. (£3.)—William Morris, Tarry Lane, Yelvertoft, Rugby, for **Snowford Commander** 1962, born in 1927, bred by A. Gowling, Snowford Hall Farm, Leamington Spa.

Class 268.—*Wiltshire or Western Horn Shearling Rams.*

2013 I. (£10, & Champion.[2])—Brodie Bros., Brockhall, Flore, Northampton, for **Yelvertoft Warrior 1st** 2475, bred by W. Evans, Yelvertoft, Rugby; *s.* Hoggeston 882.
2017 II. (£5.)—W. B. Southernwood, Gubblecote, Tring, for **Gubblecote Ranger** 2597.
2015 III. (£3.)—Alan Gowling, Snowford Hall Farm, Leamington Spa, for **Beachampton Zany** 2630, bred by G. F. Verey, Beachampton Hall, Bletchley; *s.* Hoggeston No. 11 2354.
2016 R. N.—William Morris, Tarry Lane, Yelvertoft, Rugby, for **Gubblecote Ranger 8th.**

Class 269.—*Two Wiltshire or Western Horn Shearling Ewes.*

2021 I. (£10.)—Alan Gowling, Snowford Hall Farm, Leamington Spa, for ewes bred by William Morris, Tarry Lane, Yelvertoft, Rugby.
2018 II. (£5.)—Brodie Bros., Brockhall, Flore, Northampton.
2019 III. (£3.)—W. Evans, The Orchard Farm, Yelvertoft, Rugby.
2024 R. N.—W. B. Southernwood, Gubblecote, Tring.

Ryelands.

Class 270.—*Ryeland Rams, Two Shear and upwards.*

2081 I. (£10, & R. N. for Champion.[3])—Walter Woolland, Baydon Manor, Ramsbury, Marlborough, for **Marridge Hill Juryman** 2560, born in 1928; *s.* Thomas's Juryman 2171, *d. by* Clytha Namesake 1338.
2029 II. (£5.)—E. W. Langford, Ltd., Wye Bridge, Hereford, for **Pomona Harrogate** 2602, born in 1927; *s.* Filkin's Folly 1690, *d. by* Royal Monarch 390.
2030 III. (£3.)—David J. Thomas, Monachty, Abergavenny, for **Thomas's Lustre**, born in 1928; *s.* Brynderwen Forward 984, *d. by* Talachddu Glory 1589.
2027 R. N.—W. L. Horbury, Ettington Park, Stratford-on-Avon, for **Clytha Typefounder.**
H. C.—2028. C.—2032.

Class 271.—*Ryeland Shearling Rams.*

2038 I. (£10, Champion,[3] & Champion.[4])—David J. Thomas, Monachty, Abergavenny, for **Thomas's Model.**
2041 II. (£5, & R. N. for Champion.[4])—Walter Woolland, Baydon Manor, Ramsbury, Marlborough, for **Marridge Hill Fluff** 2559.
2035 III. (£3.)—E. W. Langford, Ltd., Wye Bridge, Hereford, for **Pomona Judge.**
2040 IV. (£2.)—Walter Woolland, for **Marridge Hill Beau.**
2034 R. N.—W. L. Horbury, Ettington Park, Stratford-on-Avon, for **Ettington Dreadnought.**
C.—2036, 2037.

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[1] Prizes given by the Wiltshire or Western Horn Sheep Society.

[2] Silver Challenge Cup given by the Wiltshire or Western Horn Sheep Society for the best exhibit.

[3] Champion Gold Medal given by the Ryeland Flock Book Society for the best Male exhibit.

[4] Silver Challenge Cup given through the Ryeland Flock Book Society for the best Shearling Ram.

Class 272.—*Three Ryeland Ram Lambs.*

2050 I. (£10.)—Walter Woolland, Baydon Manor, Ramsbury, Marlborough.
2047 II. (£5.)—E. W. Langford, Ltd., Wye Bridge, Hereford.
2045 III. (£3.)—W. L. Horbury, Ettington Park, Stratford-on-Avon.
2043 R. N.—Lord Cawley, Berrington Hall, Leominster.
H. C.—2048. C.—2044.

Class 273.—*Three Ryeland Shearling Ewes.*

2052 I. (£10) & R. N. for Champion.[1])—Walter Woolland, Baydon Manor, Ramsbury, Marlborough.
2051 II. (£5.)—E. W. Langford, Ltd., Wye Bridge, Hereford.

Class 274.—*Three Ryeland Ewe Lambs.*

2057 I. (£10, & Champion.[1])—E. W. Langford, Ltd., Wye Bridge, Hereford.
2059 II. (£5.)—Walter Woolland, Baydon Manor, Ramsbury, Marlborough.
2054 III. (£3.)—Lord Cawley, Berrington Hall, Leominster.
2055 R. N.—Hubert Groom, Warham, Wells, Norfolk.

Kerry Hill (Wales.)

Class 275.—*Kerry Hill (Wales) Rams, Two Shear and upwards.*

2061 I. (£10, & Champion.[2])—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Welshpool Daimler** 14738, born in 1928, bred by Cyril Alderson, Leighton, Welshpool.
2065 II. (£5, & R. N. for Champion.[2])—J. W. Owens, Woodhouse, Shobdon, Herefordshire, for **Winsbury Kernel** 14772, born in 1928, bred by J. T. Beavan, Winsbury, Chirbury, Mont.
2068 III. (£3.)—Thomas Williams, The Gaer, Forden, Welshpool, for **Winsbury Interes** 12893, born in 1926, bred by J. T. Bevan, Winsbury, Chirbury, Mont.
2060 IV. (£2.)—Ben Alderson, Glanmiheli, Kerry, Mont., for **Pant Tonic** 13547, born in 1927, bred by George Bevan, Pant, Sarn, Mont.
2064 R. N.—Capt. J. M. Naylor, Leighton Hall, Welshpool, for **Pentrenant Wait.**

Class 276.—*Kerry Hill (Wales) Shearling Rams.*

2078 I. (£10.)—Thomas Williams, The Gaer, Forden, Welshpool, for **Gaer King.**
2076 II. (£5.)—J. W. Owens, Woodhouse, Shobdon, Herefordshire, for **Stockley Motto.**
2075 III. (£3.)—J. W. Owens, for **Stockley Master.**
2069 IV. (£2.)—Ben Alderson, Glanmiheli, Kerry, Mont., for **Great Weston Destroyer**, bred by Messrs. Jones, Great Weston, Mont.
2071 R. N.—Sir David R. Llewellyn, Bart., The Court, St. Fagans, Cardiff, for **St. Fagans Elector.**

Class 277.—*Kerry Hill (Wales) Ram Lambs.*

2083 I. (£10.)—Sir David R. Llewellyn, Bart., The Court, St. Fagans, Cardiff, for **St. Fagans Falstaff.**
2088 II. (£5.)—J. W. Owens, Woodhouse, Shobdon, Herefordshire.
2079 III. (£3.)—Ben Alderson, Glanmiheli, Kerry, Mont., for **Kerry Daniel.**
2089 IV. (£2.)—H. C. Pilkington, Bryntanat, Llansantffraid, Mont., for **Tanatside Jovial.**
2091 V. (£1.)—Thomas Williams, The Gaer, Forden, Welshpool, for **Gaer Loyal.**
2084 R. N.—Sir David R. Llewellyn, Bart., for **St. Fagans Felstead.**

Class 278.—*Three Kerry Hill (Wales) Shearling Ewes.*

2093 I. (£10.)—Brogyntyn Estate Company, Brogyntyn, Oswestry.
2095 II. (£5.)—Captain J. M. Naylor, Leighton Hall, Welshpool.
2092 III. (£3.)—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for ewes bred by the Marquess of Londonderry, K.G., Plas, Machynlleth.
2094 R. N.—Sir David R. Llewellyn, Bart., The Court, St. Fagans, Cardiff.

Class 279.—*Three Kerry Hill (Wales) Ewe Lambs.*[3]

2107 I. (£10.)—J. W. Owens, Woodhouse, Shobdon, Herefordshire.
2099 II. (£5.)—Ben Alderson, Glanmiheli, Kerry, Mont.
2105 III. (£3.)—The Marquess of Londonderry, K.G., M.V.O., Plas, Machynlleth, Mont.
2102 IV. (£2.)—J. N. Kendall, Brimpsfield Park, Gloucester.
2109 V. (£1.)—H. C. Pilkington, Bryntanat, Llansantffraid, Mont.
2111 R. N.—Thomas Williams, The Gaer, Forden, Welshpool.

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[1] Champion Gold Medal given by the Ryeland Flock Book Society for the best Female exhibit.

[2] Silver Challenge Cup, given through the Kerry Hill (Wales) Flock Book Society for the best exhibit.

[3] Prizes, except Fourth and Fifth, given by the Kerry Hill (Wales) Flock Book Society.

Clun Forests.

Class 280.—*Clun Forest Rams, Shearling and upwards.*

2114 I. (£10.)—MORGAN MORGAN, Lower Letton, Bucknell, Shropshire, for Docklow Conrage 655, born in 1926, bred by Thomas Bros., Docklow, Leominster.
2117 II. (£5.)—MAJOR H. R. SYKES, Lydham Manor, Bishop's Castle, Shropshire, for Lydham Delight, born in 1929.
2115 III. (£3.)—MAJOR H. R. SYKES, for Lydham Dandy, born in 1929.
2112 R. N.—WILLIAM ROBERTSON LYKE, Lawton Bury, Leominster, for Ford Ensign.
H. C.—2116. C.—2113.

Class 281.—*Three Clun Forest Shearling Ewes.*[1]

2118 I. (£10.)—WILLIAM ROBERTSON LYKE, Lawton Bury, Leominster.
2119 II. (£5.)—HENRY JOHN MARSH, Bedstone, Bucknell, Shropshire.
2120 III. (£3), and 2121 R. N.—MAJOR H. R. SYKES, Lydham Manor, Bishop's Castle, Shropshire.

Lincolns.

Class 282.—*Lincoln Two Shear Rams.*

2122 I. (£10, & Champion.)[2]—ERNEST ADDISON, Riby Grange, Stallingborough, Lincs, for Riby Champion 18442.
2126 II. (£5.)—JOSEPH SHEPHERD, National Provincial and Union Bank Buildings, Hamilton Square, Birkenhead, for Well Victor, bred by Major W. H. Rawnsley, Well Vale, Alford.
2127 III. (£3.)—J. M. STRICKLAND, Bainesse, Catterick, for Bainesse Brigadier 2nd.
2123 R. N.—CLIFFORD NICHOLSON, Worlaby House, Brigg, for Horkstow Manor Bigenough.

Class 283.—*Lincoln Shearling Rams.*

2140 I. (£10, & R. N. for Champion [2]), and 2141 R. N.—GEORGE WARD, Manor House, Quarrington, Sleaford.
2129 II. (£5), and 2130 IV. (£2.)—ERNEST ADDISON, Riby Grange, Stallingborough, Lincs.
2139 III. (£3.)—MAJOR W. H. RAWNSLEY, Well Vale, Alford.
2131 V. (£1.)—JOSEPH BROCKLEBANK, Carlton-le-Moorland, Lincoln.

Class 284.—*Three Lincoln Shearling Rams.*

2153 I. (£10.)—GEORGE WARD, Manor House, Quarrington, Sleaford.
2151 II. (£5.)—MAJOR W. H. RAWNSLEY, Well Vale, Alford.
2146 III. (£3.)—H. GORDON DEAN, Heath House, Nocton, Lincoln.
2144 R. N.—JOSEPH BROCKLEBANK, Carlton-le-Moorland, Lincoln.

Class 285.—*Three Lincoln Ram Lambs.*

2154 I. (£10.)—ERNEST ADDISON, Riby Grange, Stallingborough, Lincs.
2155 II. (£5), and 2156 R. N.—H. GORDON DEAN, Heath House, Nocton, Lincoln.
2158 III. (£3.)—CLIFFORD NICHOLSON, Worlaby House, Brigg.

Class 286.—*Three Lincoln Ewe Lambs.*

2161 I. (£10.)—ERNEST ADDISON, Riby Grange, Stallingborough, Lincs.
2162 II. (£5.)—H. GORDON DEAN, Heath House, Nocton, Lincoln.
2164 III. (£3.)—CLIFFORD NICHOLSON, Worlaby House, Brigg.
2166 R. N.—MAJOR W. H. RAWNSLEY, Well Vale, Alford.

Leicesters.

Class 287.—*Leicester Shearling Rams.*

2167 I. (£10.)—FREDERICK WILLIAM DENNIS, 43, Aberdeen Walk, Scarborough, for Crossgates Model.
2169 II. (£5.)—WILLIAM JORDAN, Eastburn, Driffield.
2172 III. (£3), and 2171 R. N.—R. MEGGINSON, Garton Field, Driffield.
2173 IV. (£2.)—C. H. SIMPSON & SONS, Castle House, Hunmanby.

Class 288.—*Leicester Ram Lambs.*

2179 I. (£10), and 2180 II. (£5.)—WILLIAM JORDAN, Eastburn, Driffield.
2181 III. (£3.)—R. MEGGINSON, Garton Field, Driffield.
2177 IV. (£2.)—MRS. MARY E. JACKSON, Osgodby, Scarborough.
2182 R. N.—C. H. SIMPSON & SONS, Castle House, Hunmanby.

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[1] Prizes given by the Clun Forest Sheep Breeders' Association.

[2] Champion Prize of £5 given by the Lincoln Longwool Sheep Breeders' Association for the best Ram in Classes 282 and 283.

Class 289.—*Leicester Shearling Ewes.*

2189 I. (£10.)—R. Megginson, Garton Field, Driffield.
2190 II. (£5.)—The Exors. of R. H. Stocks, Haywold, North Dalton, Driffield.
2186 III. (£3), and 2185 R. N.—William Jordan, Eastburn, Driffield.

Class 290.—*Leicester Ewe Lambs.*

2193 I. (£10), and 2194 III. (£3.)—William Jordan, Eastburn, Driffield.
2196 II. (£5.)—C. H. Simpson & Sons, Castle House, Hunmanby.
2197 R. N.—The Exors. of R. H. Stocks, Haywold, North Dalton, Driffield.

Border Leicesters.

Class 291.—*Border Leicester Rams, Two Shear and upwards.*

2199 I. (£10, & Champion.[1])—Robert Cross, Knockdon, Maybole, for **Ganymede** 7949, born in 1927, bred by John Gowans, Pathhead, Ford, Midlothian.
2201 II. (£5.)—Charles H. Dickie, Wooperton, Northumberland, for **Duplex 7215**, born in 1928, bred by James Howie, Hillhouse, Kilmarnock.
2203 III. (£3.)—Frank J. Elliot, Crunklaw, Duns, Berwickshire, for **Dulcimer** 6881, born in 1924, bred by Thos. Cross, Knockdon, Maybole.
2204 R. N.—Robert Wilson, Dockrayrigg, Wigton, for **Copyhead Buccaneer.**

Class 292.—*Border Leicester Shearling Rams.*

2208 I. (£10, & R. N. for Champion [1]), 2207 II. (£5), and 2210 III. (£3.)—R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.
2211 R. N.—Frank J. Elliot, Crunklaw, Duns, Berwickshire.

Class 293.—*Border Leicester Ewes, Two Shear and Upwards.*[2]

2214 I. (£10.)—Robert Cross, Knockdon, Maybole, for ewe, born in 1927, bred by Thomas Cross, Knockdon.
2215 II. (£5.)—Robert Wilson, Dockrayrigg, Wigton

Class 294.—*Border Leicester Shearling Ewes.*

2220 I. (£10), and 2221 R. N.—A. B. Howie, Eshott Brocks, Felton, Morpeth.
2218 II. (£5.)—R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.
2216 III. (£3.)—Robert Cross, Knockdon, Maybole.

Wensleydales.

Class 295.—*Wensleydale Rams, Two Shear and upwards.*

2224 I. (£10.)—John Dargue, Burneside Hall, Kendal, for **Prince of Princes**, born in 1928.
2223 II. (£5.)—John Dargue, for **Carperby Blue Champion** 3618, born in 1927, bred by John A. Willis, Manor House, Carperby.
2225 III. (£3.)—J. B. Smalley, Birkby Hall, Cark-in-Cartmel, for **Treasure Trove** 3670, born in 1928, bred by J. Hargrave, Wath, Ripon.
2226 R. N.—J. C. Waddington, Wheatley Farm, Gisburn, Clitheroe, for **Wheatley R.R.**

Class 296.—*Wensleydale Shearling Rams.*

2242 I. (£10, & Champion.[3])—John A. Willis, Manor House, Carperby, Yorks, for **Bold Ranger**, bred by John Hargrave, Wath, Ripon.
2230 II. (£5.)—John Darque, Burneside Hall, Kendal, for ram, bred by T. Chester, Low Moor Farm, Ripon.
2235 III. (£3.)—John Sanderson, Ward House Farm, Ellel, Lancaster, for **Ellel Pippin**, bred by Mrs. R. Rigg, Fell End, Witherslack, Grange-over-Sands.
2228 IV. (£2.)—J. Allison & Sons, Howgrave Hall, Howgrave, Bedale.
2229 V. (£1.)—Herbert Chester, Home Farm, Sharrow, Ripon.
2238 R. N.—J. B. Smalley, Birkby Hall, Cark-in-Cartmel, for **Ancliffe Statesman.**

Class 297.—*Three Wensleydale Shearling Rams.*

2248 I. (£10.)—John A. Willis, Manor House, Carperby, Yorks.
2245 II. (£5.)—John William Greensit, Holme-on-Swale, Thirsk.
2246 III. (£3.)—John Percival, Easthouse, Carperby, for rams, bred by J. C. Waddington, Burnley.
2244 R. N.—John Dargue, Burneside Hall, Kendal.

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[1] Perpetual Silver Challenge Cup given by the Society of Border Leicester Sheep Breeders for the best exhibit.

[2] Prizes given by the Society of Border Leicester Sheep Breeders.

[3] Silver Challenge Trophy given by the Wensleydale Longwool Sheep Breeders' Association for the best exhibit.

Class 298.—*Wensleydale Shearling Ewes.*

2255 I. (£10.)—John Sanderson, Ward House Farm, Ellel, Lancaster, for ewe, bred by William Millner, White House, Inskip, Preston.
2260 II. (£5.)—John A. Willis, Manor House, Carperby, Yorks.
2250 III. (£3.)—J. Allison & Sons, Howgrave Hall, Howgrave, Bedale.
2259 IV. (£2.)—John A. Willis, for ewe, bred by John Hargrave, Wath, Ripon.
2252 R. N.—John William Greensit, Holme-on-Swale, Thirsk.

Class 299.—*Wensleydale Yearling Ewes, shown in wool.*[1]

2262 I. (£10, & R. N. for Champion.[2])—John William Greensit, Holme-on-Swale, Thirsk.
2263 II. (£5.)—John Percival, Easthouse, Carperby.
2267 III. (£3.)—John A. Willis, Manor House, Carperby, Yorks.
2264 R. N.—John Sanderson, Ward House Farm, Ellel, Lancaster.

Kent or Romney Marsh.

Class 300.—*Kent or Romney Marsh Two Shear Rams.*

2272 I. (£10, & Champion.[3])—J. Egerton Quested, The Firs, Cheriton, Kent, for **Quested's No. 56 of 1928** 68962.
2270 II. (£5.)—Clifford Nicholson, Worlaby House, Brigg, for **Horkstow Manor No. 17 of 1928** 70437.
2275 III. (£3.)—Ashley Stevens, Davington Hall, Faversham, for **Luddenham No. 8 of 1928** 69634.
2271 R. N.—Clifford Nicholson, for **Horkstow Manor No. 8 of 1928.**

Class 301.—*Kent or Romney Marsh Shearling Rams.*

2284 I. (£10, & R. N. for Champion.[3])—J. Egerton Quested, The Firs, Cheriton, Kent.
2289 II. (£5), 2288 III. (£3), and 2287 IV. (£2.)—Ashley Stevens, Davington Hall, Faversham.
2280 V. (£1.)—William Miller, Renville, Canterbury.
2292 R. N.—Walter F. Wood, Chekes Court, Sittingbourne.
H. C.—2286. C.—2285.

Class 302.—*Three Kent or Romney Marsh Shearling Rams.*[4]

2305 I. (£20), and 2304 IV. (£5.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2301 II. (£15), 2303 III. (£10), and 2302 R. N.—J. Egerton Quested, The Firs, Cheriton, Kent.
2294 V. (£1.)—E. W. Baker, Parsonage Farm, Bekesbourne, Canterbury.
H. C.—2296. C.—2298.

Class 303.—*Three Kent or Romney Marsh Ram Lambs.*

2316 I. (£10.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2309 II. (£5.)—H. H. Batchelor, Whitehouse Farm, Higham, Rochester.
2314 III. (£3.)—J. Egerton Quested, The Firs, Cheriton, Kent.
2312 R. N.—Clifford Nicholson, Worlaby House, Brigg, Lincs.
H. C.—2315. C.—2311.

Class 304.—*Three Kent or Romney Marsh Shearling Ewes.*

2324 I. (£10, & Champion.[5])—Ashley Stevens, Davington Hall, Faversham, Kent.
2323 II. (£5, & R. N. for Champion [5]), and 2322 III. (£3.)—J. Egerton Quested, The Firs, Cheriton, Kent.
2317 R. N.—H. H. Batchelor, Whitehouse Farm, Higham, Rochester.
H. C.—2319. C.—2318.

Class 305.—*Three Kent or Romney Marsh Ewe Lambs.*

2331 I. (£10), and 2330 III. (£3.)—J. Egerton Quested, The Firs, Cheriton, Kent.
2326 II. (£5.)—H. H. Batchelor, Whitehouse Farm, Higham, Rochester.
2328 R. N.—Clifford Nicholson, Worlaby House, Brigg, Lincs.
H. C.—2329. C.—2332.

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[1] Prizes given by the Wensleydale Longwool Sheep Breeders' Association.

[2] Silver Challenge Trophy given by the Wensleydale Longwool Sheep Breeders' Association for the best exhibit.

[3] Champion Prize of £10 10*s.* given by the Kent or Romney Marsh Sheep Breeders' Association for the best Ram in Classes 300 and 301.

[4] Prizes, except Fifth, given by the Kent or Romney Marsh Sheep Breeders' Association.

[5] Champion Prize of £10 10*s.*, given by the Kent or Romney Marsh Sheep Breeders' Association for the best Pen of Ewes or Ewe Lambs.

Dartmoors.

Class 309.—*Dartmoor Rams, Shearling and upwards.*

2333 I. (£10.)—J M. Cole, Chaddlehanger, Lamerton, Tavistock, for Chadlam No. 28 4365, born in 1929.
2334 II. (£5), and 2335 III. (£3.)—R. R. Dawe, Ford Farm, Tavistock, for rams, born in 1929
2337 R. N.—H. J. Kingwell, Great Aish, South Brent, Devon, for Brent Idol.

Class 310.—*Dartmoor Shearling Ewes.*

2341 I. (£10.)—F G. Yelland, Ashleigh, Bridestowe, Devon.
2340 II. (£5), and 2339 R. N.—J. W. Symons, East Sherford, Brixton, Plymouth.
2338 III. (£3.)—J. M. Cole, Chaddlehanger, Lamerton, Tavistock.

Lonks.

Class 311.—*Lonk Rams, Shearling and upwards.*

2343 I. (£10.)—Harry Higgin, Blackmoor Farm, Oxenhope, Keighley, for Blackmore King, born in 1928, bred by H. O. Mitchell, Blackmoor Farm, Oxenhope, Keighley.
2348 II. (£5.)—Edward Smith, Summerhouse Farm, Cowling, Keighley, for Summerhouse Spellbinder, born in 1927, bred by W. Heyworth, Whitworth, Lancashire.
2344 III. (£3.)—Edgar Hirst, Oak Lees, New Mill, Huddersfield, for Blackmoor Herbert, born in 1927, bred by H. O. Mitchell, Blackmoor Farm, Oxenhope, Keighley.
2347 R. N.—Richard Parker, House-o'-th-Hill, Whitworth, Rochdale, for Whitworth Wonder.
H. C.—2346.

Class 312.—*Lonk Shearling Ewes.*

2351 I. (£10.)—Harry Higgin, Blackmoor Farm, Oxenhope, Keighley, for Blackmoor Lucy, bred by H O. Mitchell, Blackmoor Farm, Oxenhope, Keighley.
2350 II. (£5.)—Harry Higgin, for Blackmoor Annie, bred by H. O. Mitchell, Blackmoor Farm, Oxenhope, Keighley.
2353 III. (£3.)—Stanley E. Kippax, Holden Farm, Roggerham, Burnley, for Stan's Ann.
2354 R. N.—Richard Parker, House-o'-th-Hill, Whitworth, Rochdale, for Whitworth Queen.

Swaledales.

Class 313.—*Swaledale Rams, born in or before* 1928.[1]

2355 I. (£10, & R. N. for Champion.[2])—Joseph William Dent, Fair View, Middleton-in-Teesdale, for Pennington Swell A 1115, born in 1927, bred by Sir Frederick Milbank, Bart., Barmingham, Richmond, Yorks.
2357 II. (£5.)—Lord Leconfield, Cockermouth Castle, Cumberland, for Forest Masterpiece C 927, born in 1927, bred by Mrs. Dargue, Forest Hall, Kendal.
2358 III. (£3.)—J. L. Peacock, Punchard House, Arkengarthdale, Richmond, Yorks, for Stone House Reminder B.X. 44, born in 1926, bred by James Alderson, Stone House, Keld, Richmond, Yorks.
2359 R. N.—John H. Smith, Slack Farm, Lunedale, Middleton-in-Teesdale, for Milbank Bobby.

Class 314.—*Swaledale Rams, born in* 1929.

2363 I. (£10, & Champion.[2])—J. L. Peacock, Punchard House, Arkengarthdale, Richmond, Yorks, for Punchard Hero.
2361 II. (£5), and 2360 R. N.—Joseph William Dent, Fair View, Middleton-in-Teesdale
2362 III. (£3.)—Lord Leconfield, Cockermouth Castle, Cumberland, for Skiddaw Tramp.

Class 315.—*Two Swaledale Ewes, born in or before* 1928.

2367 I. (£10), and 2368 R. N.—J. L. Peacock, Punchard House, Arkengarthdale, Richmond, Yorks, for ewes born in 1927.
2364 II. (£5.)—Joseph William Dent, Fair View, Middleton-in-Teesdale, for ewes, born in 1927.
2366 III. (£3.)—Lord Leconfield, Cockermouth Castle, Cumberland, for Bessie and May, born in 1928.

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[1] Prizes given by the Swaledale Sheep Breeders' Association
[2] Champion Prize of £5 given by the Swaledale Sheep Breeders' Association for the best exhibit.

Class 316.—*Two Swaledale Ewes, born in* 1929.

2372 I. (£10.)—John H. Smith, Slack Farm, Lunedale, Middleton-in-Teesdale, for ewes, bred by Joseph Wm. Dent, Wooley Hills, Woodland, Butterknowle.
2371 II. (£5.)—J. L. Peacock, Punchard House, Arkengarthdale, Richmond, Yorks.
2369 III. (£3.)—Joseph William Dent, Fair View, Middleton-in-Teesdale.

Herdwicks.

Class 317.—*Herdwick Rams, Two Shear and upwards.*[1]

2379 I. (£10.)—William Wilson, Stoneycroft, Newlands, Keswick, for **Derwent Parlishcrater** 4160, born in 1923.
2376 II. (£5.)—John F. Palmer, Darling How Farm, Lorton, Cockermouth, for **Hill Park Blacksmith** 5274, born in 1924, bred by Thomas Kirkbride, Lowick.
2373 III. (£3.)—Lord Leconfield, Cockermouth Castle, Cumberland, for **Melbecks Marvel** 5703, born in 1926, bred by J. W. Thwaites, Melbecks, Bassenthwaite.
2377 R. N.—S. D. Stanley-Dodgson, Armaside, Cockermouth, for **Blakefell.**

Class 318.—*Herdwick Shearling Rams.*

2383 I. (£10.)—William Wilson, Stoneycroft, Newlands, Keswick, for **Derwent Come Again.**
2380 II. (£5.)—Lord Leconfield, Cockermouth Castle, Cumberland, for **Dash Daylight.**
2382 III. (£3.)—S. D. Stanley-Dodgson, Armaside, Cockermouth, for **Harrot Vulcan**, bred by William Rigg, Well Park, Greenodd.
2381 R. N.—S. D. Stanley-Dodgson, for **Harrot Grey Knot.**

Class 319.—*Herdwick Shearling Ewes.*

2388 I. (£10.)—William Wilson, Stoneycroft, Newlands, Keswick, for **Wild Rose.**
2386 II. (£5.)—John F. Palmer, Darling How Farm, Lorton, Cockermouth, for ewe, bred by S. D. Stanley-Dodgson, Armaside, Cockermouth.
2387 III. (£3.)—S. D. Stanley-Dodgson, Armaside, Cockermouth.
2385 R. N.—Lord Leconfield, Cockermouth Castle, Cumberland, for **Dash Dewdrop.**

Cheviots.

Class 320.—*Cheviot Rams, Two Shear and upwards.*

2392 I. (£10, & R. N. for Champion.[2])—Messrs. Thomson, Bushelhill, Cockburnspath, for **Big Ben**, born in 1928
2390 II. (£5.)—John Robson, Newton, Tarset, for **Mountaineer**, born in 1928.
2389 III. (£3.)—Frank J. Elliot, Crunklaw, Duns, Berwickshire, for **Toff** 4618, born in 1928.
2391 R. N.—John Robson, Junr., Lynegar, Watten, Caithness, for **Stirrup Cup.**

Class 321.—*Cheviot Shearling Rams.*

2395 I. (£10.)—John Robson, Newton, Tarset.
2393 II. (£5.)—Frank J. Elliot, Crunklaw, Duns, Berwickshire.
2394 III. (£3.)—Geoffrey Robson, Closehill, Tarset.
2396 R. N.—Messrs. Thomson, Bushelhill, Cockburnspath.

Class 322.—*Cheviot Shearling Ewes.*

2399 I. (£10, & Champion.[2])—John Robson, Newton, Tarset.
2401 II. (£5.)—Messrs. Thomson, Bushelhill, Cockburnspath, for **Lady Walker.**
2398 III. (£3.)—Geoffrey Robson, Closehill, Tarset.
2397 R. N.—Frank J. Elliot, Crunklaw, Duns, Berwickshire.

Welsh Mountain.

Class 325.—*Welsh Mountain Rams, Two Shear and upwards.*[3]

2404 I. (£10.)—Major Eric J. W. Platt, Madryn Farm, Aber, Caernarvonshire, for **Madryn A 1** 3222, born in 1928.
2408 II. (£5.)—University College of North Wales, College Farm, Aber, Caernarvonshire, for **Snowdon A 45** 3309, born in 1928.
2405 III. (£3.)—R. Roberts & Son, Arllen Fawr, Llanrhaiadr, Oswestry, for **Arllen X 1** 2932, born in 1927.
2409 R. N.—University College of North Wales, for **Snowdon X 6.**
H. C.—2403.

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[1] Prizes given by the Herdwick Sheep Breeders' Association.
[2] The "Borthwick" Challenge Cup given by the Cheviot Sheep Society for the best exhibit.
[3] Prizes given by the Welsh Mountain Sheep Flock Book Society.

Class 326.—*Welsh Mountain Shearling Rams.*

2417 I. (£10.)—R. Roberts & Son, Arllen Fawr, Llanrhaiadr, Oswestry, for Arllen B 1.
2419 II. (£5), and 2420 R. N.—University College of North Wales, College Farm, Aber, Caernarvonshire.
2412 III. (£3.)—Lt.-Col. E. W. Griffith, Plasnewydd, Trefnant, Denbighshire, for Plasnewydd Mr. Jinks.
2416 IV. (£2.)—Major Eric J. W. Platt, Madryn Farm, Aber, Caernarvonshire, for Madryn B 9.

Class 327.—*Welsh Mountain Ram Lambs.*

2427 I. (£10.)—Major Eric J. W. Platt, Madryn Farm, Aber, Caernarvonshire.
2430 II. (£5.)—University College of North Wales, College Farm, Aber, Caernarvonshire.
2422 III. (£3), and 2423 IV. (£2.)—Lt.-Col. E. W. Griffith, Plasnewydd, Trefnant, Denbighshire.
2428 R. N.—R. Roberts & Son, Arllen Fawr, Llanrhaiadr, Oswestry.

Class 328.—*Three Welsh Mountain Shearling Ewes.*

2436 I. (£10.)—Major Eric J. W. Platt, Madryn Farm, Aber, Caernarvonshire
2433 II. (£5.)—Lt.-Col. E. W. Griffith, Plasnewydd, Trefnant, Denbighshire.
2437 III. (£3.)—R. Roberts & Son, Arllen Fawr, Llanrhaiadr, Oswestry.
2441 R. N.—University College of North Wales, College Farm, Aber, Caernarvonshire

Class 329.—*Three Welsh Mountain Ewe Lambs.*

2444 I. (£10.)—Major Eric J. W. Platt, Madryn Farm, Aber, Caernarvonshire.
2442 II. (£5.)—Lt.-Col. E. W. Griffith, Plasnewydd, Trefnant, Denbighshire.
2446 III. (£3.)—University College of North Wales, College Farm, Aber, Caernarvonshire.
2445 R. N.—R. Roberts & Son, Arllen Fawr, Llanrhaiadr, Oswestry.

Black Welsh Mountain.

Class 330.—*Black Welsh Mountain Shearling Rams.*

2452 I. (£10.)—Mrs. Jervoise, Herriard Park, Basingstoke.
2449 II. (£5.)—Reginald S. Hicks, Wilbraham Temple, Cambridge.
2448 III. (£3.)—Brogyntyn Estate Company, Glyn Home Farm, Talsarnau, Merioneth.
2447 R. N.—Major Clive Behrens, Swinton Grange, Malton.

Class 331.—*Three Black Welsh Mountain Shearling Ewes.*[1]

2458 I. (£10.)—Major F. H. T. Jervoise, Herriard Park, Basingstoke.
2454 II. (£5.)—Major Clive Behrens, Swinton Grange, Malton.
2457 III. (£3.)—Reginald S. Hicks, Wilbraham Temple, Cambridge.
2459 R. N.—Mrs. Jervoise, Herriard Park, Basingstoke.

PIGS.

[*The numbers in brackets refer to the Tattoo or Ear Numbers of the Animals.*]

Large Whites.

Class 332.—*Large White Boars, born in or before* 1928.

2466 I. (£10, Champion,[2] & R. N. for Champion [3])—Marden Pedigree Pig Co., Ltd., Marden Mill, Devizes, for Walton Bandmaster 33rd 66153 (1037), born July 1, 1927, bred by Lord Daresbury, C.V.O., Walton Hall, Warrington; *s.* Walton Bandmaster 13th 53873, *d.* Walton Primrose 50th 161588 *by* Bourne King David 52nd 47549.
2460 II. (£5.)—Lord Daresbury, C.V.O., Walton Hall, Warrington, for Walton Boy 39th 66159 (1364), born Feb. 12, 1928; *s.* Adlington Boy 52033, *d.* Walton Lassie 19th 149474 *by* Boxted Turk 33117.
2473 III. (£3.)—Walter W. Ryman, Wall, Lichfield, for Wall Jay 27th 66101 (1537), born July 2, 1927; *s.* Spalding Jay 11th 42357, *d.* Wall Catalina 11th 149382 *by* Banner of Wall 40079.

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[1] Prizes given by the Black Welsh Mountain Sheep Breeders' Association.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Boar.

[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Large White Pig.

2469 IV. (£2.)—John H. Penty, Glebe Farm, Bolton Percy, York, for **Bourne King David 219th** 55955 (6112), born July 25, 1925, bred by Edmund Wherry, Bourne, Lincs; *s* Bourne King David 20th 40527, *d.* Bourne Champion Queen 5th 76980 *by* Sapperton Boy 24471.

2477 V. (£1.)—W. White & Son, Taunton, for **Fen Bradbury 10th** 60773 (22), born Jan. 11, 1927, bred by F. Laud, Bourne, Lincs; *s.* Bourne Bradbury 63rd 55901, *d.* Bourne Bonetta 129th 156640 *by* Bourne King David 36437.

2464 R. N.—Rowland P. Haynes, Delves Green Farm, Wednesbury, for **Taunton Turk 25th.**

H. C.—2476. C.—2467.

Class 333.—*Large White Boars, born in* 1929, *before July* 1.

2479 I. (£10, & R. N. for Champion.[1])—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Wonder 72nd** 69269 (1414), born Jan. 1; *s.* Histon Wonder 22nd 48247, *d.* Ramsey Belle 64th 181702 *by* Hallastone Ringleader 13th 56877.

2481 II. (£5.)—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Jay 40th** 70221 (1692), born Jan. 13; *s.* Walton Jay 27th 66185, *d.* Walton Lassie 24th 161556 *by* Bourne King David 52nd 47549.

2483 III. (£3.)—W. Hallas, Bank House Farm, Helsby, Warrington, for **Hallastone Bradbury 2nd** 69043 (1957), born Jan 4; *s.* Wentworth Bradbury 29th 62597, *d.* Hallastone Dorothy 8th 189480 *by* Forest Champion King 60809.

2491 IV. (£2.)—E. Thomlinson, Hall Farm, Hutton Wandesley, Marston, York, for **Moreton Baldwin 67th** 69559 (1258), born Feb. 5, bred by R. G. Peel, Moreton Hall, Cheshire; *s.* Bourne Baldwin 52255, *d.* Moreton Primrose 8th 159730 *by* Caldmore Banner 4th 36569.

2489 V. (£1.)—John H. Penty, Glebe Farm, Bolton Percy, York, for **Glebe Star Boy** (770), born Jan 20; *s.* Bourne King David 219th 55955, *d.* Glebe Queen Mary 158214 *by* Histon Wonder 8th 41561.

2478 R. N.—Chivers & Sons, Ltd., for **Aldenham Bonetta's Boy.**

H. C.—2487. C.—2494.

2481, 2565, 2589, 2617 Special I. (£8.[2])—Lord Daresbury, C.V.O., for **Walton Jay 40th, Walton Queen Mary 10th, Walton Wallflower 3rd and Walton Irene 3rd.**

Class 334.—*Large White Boars, born in* 1929, *on or after July* 1.[3]

2496 I. (£10.)—E. L. Chandler, Batchacre Park, Shebdon, Stafford, for **Marchington Herdsman 6th** (314), born July 3, bred by A. W. Leason, Brook House Farm, Uttoxeter; *s.* Taunton Turk 25th 66009, *d.* Marchington Queen 10th 159524 *by* Brookfield J.J. 52415.

2510 II. (£5.)—Walter W. Ryman, Wall, Lichfield, for **Wall Lion 15th** (3135), born July 25; *s.* Wall Lion 3rd 66141, *d.* Wall Surprise 10th 191746 *by* Bourne King David 12th 40515.

2512 III. (£3.)—W. White & Son, Taunton, for **Taunton Bradbury 21st** (1738), born July 5; *s.* Fen Bradbury 10th 60773, *d.* Taunton Royal Amy 2nd 131942 *by* Spalding Signal 34103.

2506 IV. (£2.)—George Payne, The Wentworth, Elmesthorpe, Leics., for **Wentworth What's Wanted** (570), born July 18; *s.* Wentworth Baronet 70245, *d.* Wentworth Queen Anne 32nd 191902 *by* Bourne King David 12th 40515.

2500 V. (£1.)—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Boy 44th** (1902), born July 6; *s.* Walton Boy 39th 66159, *d.* Walton Lady Dorothy 12th 182602 *by* Bourne King David 52nd 47549.

2505 R. N.—J. Pierpont Morgan, Wall Hall, Watford, for **Aldenham Burglar.**

H. C.—2511. C.—2499.

2512, 2582, 2605, 2635 Special II. (£4.[2])—W. White & Son, for **Taunton Bradbury 21st, Taunton East Lass 8th, Taunton Amy 140th and Taunton East Lass 9th.**

Class 335.—*Large White Boars, born in* 1930.

2535 I. (£10.)—J. Rackley & Sons, Ltd., Hermitage Farm, Silver Street, Edmonton, for **Edmonton King David 285th** (1945), born Jan. 1; *s.* Edmonton King David 73rd 64781, *d.* Bourne Lady Bountiful 17th 156764 *by* Spalding Bob 10th 53615.

2524 II. (£5.)—D. R. Daybell & Son, Bottesford, Nottingham, for **Bottesford Bradbury 28th** (147), born Jan. 7; *s.* Edmonton Bradbury 3rd 56491, *d.* Bottesford Buttercup 102nd 168076 *by* Sapperton President 42263.

2519 III. (£3.)—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Boy 46th** (2178), born Jan. 7; *s.* Walton Boy 39th 66159, *d.* Rodbaston Catalina 6th 190972 *by* Bourne King David 112th 52331.

2520 IV. (£2.)—Lord Daresbury, C.V.O., for **Walton Boy 48th** (2180), born Jan. 7; *s.* Walton Boy 39th 66159, *d.* Rodbaston Catalina 6th 190972 *by* Bourne King David 112th 52331.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Boar.

[2] Special Prizes of £8 (First Prize) and £4 (Second Prize) given by the National Pig Breeders' Association for the best groups of four pigs, bred by Exhibitor, in Classes 333 to 335 and 337 to 339. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

[3] Prizes, except Fourth and Fifth, given by the National Pig Breeders' Association.

2516 V. (£1.)—Ernest A. Crookes, Rose Cottage Farm, Cutthorpe, Chesterfield, for **Cutthorpe Nonsuch 18th** (2501), born Jan. 9; *s.* Kirton Nonsuch 7th 69391, *d.* Cutthorpe Lady Beatrice 28th 129082 *by* Jay of Cutthorpe 37223.

2534 R. N.—John H. Penty, Glebe Farm, Bolton Percy, York, for **Glebe Rock Star.**

H. C.—2514, 2518.

Class 336.—*Large White Breeding Sows, born in or before* 1928.

2542 I. (£10, & Champion,[1] & Champion.[2])—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Peakirk Mary 5th** 160130 (262), born Aug. 29, 1925, farrowed Feb. 4, bred by John Neaverson, Peakirk, Peterborough; *s.* Bob of Bourne 28701, *d.* Spalding Queen Mary 20th 92702 *by* Monitor of Spalding 30081.

2556 II. (£5.)—E. Thomlinson, Hall Farm, Hutton Wandlesley, Marston, York, for **Tockwith Blackberry 8th** 182368 (2330), born Jan. 2, 1928, farrowed March 20; *s.* Packwood Prince Edward 57453, *d.* Histon Blackberry 2nd 147020 *by* Aldenham Master 36091.

2553 III. (£3.)—J. Rackley & Sons, Ltd., Hermitage Farm, Silver Street, Edmonton, for **Edmonton Bonetta 6th** 169292 (540), born Jan. 3, 1927, farrowed March 12; *s.* Bourne King David 223rd 55959, *d.* Bourne Bonetta 27th 103300 *by* Bourne Champion Boy 33091.

2558 IV. (£2.)—W. White & Son, Taunton, for **Bourne Bonetta 129th** 156640 (6020), born Feb. 26, 1925, farrowed Jan. 6, bred by Edmund Wherry, Bourne, Lincs; *s.* Bourne King David 36437, *d.* Bourne Bonetta 27th 103300 *by* Bourne Champion Boy 33091.

2559 V. (£1.)—Wm. Wright & Sons (York), Ltd., 9, Goodramgate, York, for **Mill Duchess 4th** 171236 (24), born July 20, 1926, farrowed Feb. 2, bred by A. C. Wright, Mill Farm, Raskelf, Easingwold, Yorks; *s.* Tockwith Major 42535, *d.* Barfield Duchess 102994 *by* Tockwith Banner 34241.

2555 R. N.—E. Thomlinson, for **Spalding Lady Mollington 39th.**

H. C.—2541, 2543, 2551.

Class 337.—*Large White Sows, born in* 1929, *before July* 1.

2582 I. (£10, & R. N. for Champion.[2])—W. White & Son, Taunton, for **Taunton East Lass 8th** (1658), born Jan. 3; *s.* Duston Delegate 18th 52719, *d.* Histon East Lass 11th 147036 *by* Histon Wonder 33677.

2562 II. (£5.)—Chivers & Sons, Ltd., Histon, Cambridge, for **Aldenham Lily 10th** (3056), born Jan. 4, bred by J. Pierpont Morgan, Wall Hall, Watford; *s.* Aldenham Boy 55665, *d.* Hatley Lily 6th 10580 *by* Hatley Bar-None 33567.

2573 III. (£3.)—J. Pierpont Morgan, Wall Hall, Watford, for **Aldenham Lily 9th** (3057), born Jan. 4; *s.* Aldenham Boy 55665, *d.* Hatley Lily 6th 105806 *by* Hatley Bar-None 33567.

2574 IV. (£2.)—John H. Penty, Glebe Farm, Bolton Percy, York, for **Glebe Sunray** (765), born Jan. 4; *s.* Tockwith Prince George 10th 62331, *d.* Glebe Polly 179912 *by* Tockwith Major 42535.

2563 V. (£1.)—Ernest A. Crookes, Rose Cottage Farm, Cutthorpe, Chesterfield, for **Cutthorpe Queen 52nd** 188730 (2181), born Jan. 4; *s.* Edmonton King David 50th 60709, *d.* Caldmore Queen E.T. 179036 *by* Edmonton Turk 18th 56509.

2565 R. N.—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Queen Mary 10th.**

H. C.—2564. C.—2569.

Class 338.—*Large White Sows, born in* 1929, *on or after July* 1.

2603 I. (£10.)—Alfred W. White, Hillegom, Spalding, for **Spalding Baroness 14th** (9146), born July 4; *s.* Caldmore Expectation 2nd 60279, *d.* Spalding Baroness 10th 191118, *by* Duston Monitor 23rd 60619.

2589 II. (£5.)—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Wallflower 3rd** (1917), born July 7; *s.* Walton Boy 39th 66159, *d.* Whittingham Wallflower 12th 182912 *by* Aldenham Victor 55687.

2601 III. (£3.)—Walter W. Ryman, Wall, Lichfield, for **Wall Dahlia 4th** (3185), born July 25; *s.* Wall Lion 3rd 66141, *d.* Duston Dahlia 12th 157792 *by* Duston Delegate 3rd 41107.

2590 IV. (£2.)—E. R. Debenham, Bladen Estate, Briantspuddle, Dorchester, for **Bladen Lily** (1019), born July 11; *s.* Edmonton King David 94th 64709, *d.* Bushes Lily 24th 188434 *by* Bushes Turk 31st 60261.

2605 V. (£1.)—W. White & Son, Taunton, for **Taunton Amy 140th** (1743), born July 5; *s.* Fen Bradbury 10th 60773, *d.* Taunton Royal Amy 2nd 131942 *by* Spalding Signal 34103.

2594 R. N.—W. Hallas, Bank House Farm, Helsby, Warrington, for **Hallastone Bountiful 3rd.**

H. C.—2595. C.—2599.

Class 339.—*Large White Sows, born in* 1930.

2610 I. (£10.)—E. L. Chandler, Batchacre Park, Shebdon, Stafford, for **Roston Lady Dorothy** (262), born Jan. 7; *s.* Packwood Masterpiece 2nd 65679, *d.* Walton Lady Dorothy 13th 182604 *by* Walton Turk 36th 62569.

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[1] Silver Challenge Cup given by the National Pig Breeders' Association for the best Large White Pig.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Sow.

2617 **II. (£5.)**—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Irene 3rd** (2128), born Jan. 2; *s.* Adlington Hercules 3rd 59901, *d.* Bushes Irene 43rd 178996 *by* Tockwith Jay 10th 57991.

2623 **III. (£3.)**—Ernest Harding, Packwood Grange, Dorridge, Warwickshire, for **Packwood Brocade 29th** (3190), born Jan. 5; *s.* Wentworth Masterpiece 10th 70249, *d.* Packwood Brocade 5th 171644 *by* Packwood Bulwark 6th 53401.

2618 **IV. (£2.)**—Lord Daresbury, C.V.O., for **Walton Primrose 79th** (2156), born Jan. 5; *s.* Walton Jay 33rd 70207, *d.* Cholmondeley Primrose 8th 168562 *by* Holmfirth Kitchener 6th 53083.

2611 **V. (£1.)**—E. L. Chandler, for **Roston Lady Dorothy 2nd** (263), born Jan. 7; *s.* Packwood Masterpiece 2nd 65679, *d.* Walton Lady Dorothy 13th 182604 *by* Walton Turk 36th 62569.

2619 **R. N.**—D. R. Daybell & Son, Bottesford, Nottingham, for **Bottesford Buttercup 137th.**

H. C.—2022, 2635. **C.**—2627.

Middle Whites.

Class 340.—*Middle White Boars, born in or before* 1928.

2638 **I. (£10.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Apache** 67091 (87), born Jan. 13, 1927, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms; *s.* Histon Woodman 28th 59057, *d.* Whitehill Rover's Choice 155338 *by* Histon Rover 48th 44581.

2646 **II. (£5.)**—Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop, for **Wharfedale Dependence** 68037 (1671), born July 3, 1928; *s.* Wharfedale Advocate 64001, *d.* Wharfedale Silver Queen 143858 *by* Councillor of Wharfedale 46505.

2642 **III. (£3.)**—Hicks & Sons, High Fordon, Wold Newton, Driffield, for **Fordon Dignity 2nd** 67577 (622), born Dec. 18, 1926; *s.* Defender of Ypres 43857, *d.* Fordon Wren 6th 163396 *by* Somerdon Ben 32427.

2643 **IV. (£2.)**—E. M. Jowitt, Broad Road Farm, Bridport, Dorset, for **Norsbury Woodman 8th** 67061 (1774), born Sept. 14, 1927, bred by Mrs. Hayes Sadler, Roundstone Farm, Ferring, Sussex; *s.* Norsbury Hivite 59267, *d.* Norsbury Welcome 17th 165150 *by* Norsbury Harold 50791.

2640 **R. N.**—T. H. Gladstone, Eastcote Grange, Hampton-in-Arden, Warwickshire, for **Pendley Prince 6th.**

H. C.—2637, 2639, 2648, 2649.

Class 341.—*Middle White Boars, born in* 1929, *before July* 1.

2657 **I. (£10, & Champion.[1])**—W. Hallas, Bank House Farm, Helsby, Warrington, for **Whittingham Structure** (860), born Jan. 2, bred by the Whittingham Mental Hospital, Preston; *s.* Wharfedale Structure 64043, *d.* Whittingham Rose 6th 185768 *by* Mistley Cornelian 59225.

2653 **II. (£5, & R. N. for Champion.[1])**—Chivers & Sons, Ltd., Histon, Cambridge, for **Fordon Marmion** (34), born Feb. 1, bred by J. S. Hicks, High Fordon, Hunmanby, Yorks; *s.* Fordon Dignity 2nd 67577, *d.* Wharfedale Marmora 166874 *by* Wharfedale Sunstar 51699.

2661 **III. (£3.)**—Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop, for **Wharfedale Wimple** 68053 (1775), born Feb. 3; *s.* Wattle Rover 51579, *d.* Wharfedale Coruna 166830 *by* Wharfedale Bulwark 55357.

2652 **IV. (£2.)**—W. W. Buckle, Old Lane Farm, Colton, Tadcaster, for **Fulford Reform** (117), born April 15, bred by J. Triffitt, Fulford, York; *s.* Wharfedale Clinker 51673, *d.* Wharfedae Charming Lady 143860 *by* Councillor of Wharfedale 46505.

2655 **V. (£1.)**—Esmond D. Fairweather, Manor House, Waltham St. Lawrence, Berks, for **Pendley Apollo 7th** (328), born Jan. 26, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring; *s.* Godmersham Apollo 30th 66801, *d.* Babsbarn Rover's Choice 2nd 174210 *by* Hammonds Herald 44353.

2662 **R. N.**—G. H. Rose, Laybrook Home Farm, Thakeham, Pulborough, for **Laybrook Deliverance** 67749 (64), born Jan. 8; *s.* Salts Deliverance 33rd 67927, *d.* Mistley Dorothy 234th 184684 *by* Hawthorn Sultan 15th 54669.

H. C.—2654, 2656, 2663. **C.**—2660.

2661, 2673, 2724, 2762 **Special I. (£8.[2])**—Leopold C. Paget, for **Wharfedale Wimple, Wharfedale Legacy, Wharfedale Wooer and Wharfedale Sunshine.**

Class 342.—*Middle White Boars, born in* 1929, *on or after July* 1.[3]

2669 **I. (£10.)**—Hicks & Sons, High Fordon, Wold Newton, Driffield, for **Fordon Regent** (77), born July 2; *s.* Fordon Valorous 6th 58829, *d.* Fordon Revelation 2nd 175182 *by* Defender of Ypres 43857.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Middle White Boar.

[2] Special Prizes of £8 (First Prize) and £4 (Second Prize) given by the National Pig Breeders' Association for the best groups of four Pigs, bred by Exhibitor, in Classes 341 to 343 and 345 to 347. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

[3] Prizes, except Fourth and Fifth, given by the National Pig Breeders' Association.

2673 **II. (£5.)**—Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop, for **Wharfedale Legacy** (1835), born July 12; *s.* Wharfedale Clansman 68035, *d.* Wharfedale Benefaction 187716 *by* Wharfedale Ajaccio 58689.

2666 **III. (£3.)**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Herald 24th** (606), born July 31; *s.* Hammonds Herald 44353, *d.* Histon Choice 51st 137558 *by* Histon Rover 28075.

2674 **IV. (£2.)**—Lady H. Roger, Yockley House, Camberley, Surrey, for **Yockley Prince 3rd** (39), born July 9; *s.* Salts Prince 13th 67195, *d.* Salts Lilac 3rd 185202 *by* Wharfedale Deliverance 32575.

2664 **V. (£1.)**—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Shawlands Bold Boy 2nd** (227), born July 3; *s.* Shawlands Bold Boy 67965, *d.* Shawlands Gracious Lady 185274 *by* Benjamin of Godmersham 2nd 49357.

2667 **R. N.**—Esmond D. Fairweather, Manor House, Waltham St. Lawrence, Berks, for **Avisford's Illuminator 2nd** 67425 (47), born July 28; *s.* Hawthorn Herald 9th 54633, *d.* Ramsbury Rosebud 2nd 177132 *by* Illuminator of Wharfedale 44935.

H. C.—2670, 2671, 2672, 2676.

2664, 2711, 2730, 2746 **Special II. (£4.[1])**—Miss R. B. Babcock, for **Shawlands Bold Boy 2nd, Shawlands Lady Choice 31st, Shawlands Choice 28th** and **Shawlands Miss Dorothy 7th**

Class 343.—*Middle White Boars, born in* 1930.

2681 **I. (£10.)**—Chivers & Sons, Ltd, Histon, Cambridge, for **Fordon Vanguard 2nd** (210), born Jan. 7, bred by J. S. Hicks, High Fordon, Hunmanby, Yorks; *s.* Defender of Ypres 43857, *d.* Fordon Vera 18th 163382 *by* Somerdon Ben 32427.

2689 **II. (£5.)**—Hicks & Sons, High Fordon, Wold Newton, Driffield, for **Fordon Vanguard 3rd** (212), born Jan. 7; *s.* Defender of Ypres 43857, *d.* Fordon Vera 18th 163382 *by* Somerdon Ben 32427.

2695 **III. (£3.)**—Mrs. Sofer Whitburn, Amport St. Mary, Andover, for **Amport Illuminator 5th** (2503), born Jan. 3; *s.* Salts Illuminator 59449, *d.* Amport Peerless 21st 183336 *by* Amport Ranger 62885.

2683 **IV. (£2.)**—George Gee, Mayford House, Mayford, Woking, for **Mayford Hermes 4th** (352), born Jan. 14; *s.* Hazelwood Hermes 2nd 67635, *d.* Shawlands Lady Dorothy 4th 187586 *by* Hawthorn Sultan 15th 54669.

2692 **V. (£1.)**—Lady H. Roger, Yockley House, Camberley, Surrey, for **Yockley Ranger** (56), born Jan. 14; *s.* Amport Ranger 3rd, *d.* Compton Atbara 9th 183682 *by* Compton Choice Lad 2nd 63109.

2688 **R. N.**—Hicks & Sons, for **Fordon Vanguard.**

H. C.—2677, 2678, 2687.

Class 344.—*Middle White Breeding Sows, born in or before* 1928.

2700 **I. (£10, Champion,[2] & Champion.[3])**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Woodlands 6th** 175916 (773), born Jan. 1, 1927, farrowed March 27; *s.* Hammonds Herald 44353, *d.* Ayle Woodlands 150088 *by* Peene Slasher 45849.

2698 **II. (£5.)**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Princess 2nd** 184940 (138), born Jan. 3, 1928, farrowed March 13, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms; *s.* Salts Prince 7th 63787, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

2709 **III. (£3.)**—Mrs Sofer Whitburn, Amport St. Mary, Andover, for **Amport Choice 22nd** 183312 (0732), born Aug. 25, 1927, farrowed May 6; *s.* Amport Scotty 11th 62899, *d.* Amport Choice 5th 162228 *by* Histon Milpond 35161.

2703 **IV. (£2.)**—W. Hallas, Bank House Farm, Helsby, Warrington, for **Ashtonheyes Monadelphia** 174202 (149), born Jan. 7, 1927, farrowed Feb. 4, bred by Mrs. Ernest Johnson, Ashton Heyes, Chester; *s.* Caldmore Deliverance 6th 58651, *d.* Hallastone Mona 5th 136768 *by* Bookham Marquis 38243.

2705 **V. (£1.)**—Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop, for **Wharfedale Intensity** 187724 (1667), born July 3, 1928, farrowed Feb. 20; *s.* Wharfedale Advocate 64001, *d.* Wharfedale Silver Queen 143858 *by* Councillor of Wharfedale 46505.

2708 **R. N.**—Mrs. Hayes Sadler, Roundstone Farm, Ferring, Sussex, for **Salts Choice 21st.**

H. C.—2696, 2701, 2704.

Class 345.—*Middle White Sows, born in* 1929, *before July* 1.

2714 **I. (£10, R. N. for Champion,[2] & R. N. for Champion.[3])**—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Princess 8th** 187332 (244), born Jan. 3, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms; *s.* Salts Deliverance 8th 55145, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

2715 **II. (£5.)**—Chivers & Sons, Ltd., Histon, Cambridge, for **Histon Hagar 36th** (435), born Jan. 7; *s.* Hammonds Herald 44353, *d.* Lancefield Atbara 164346 *by* Pendley Don 2nd 55029.

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[1] Special Prizes of £8 (First Prize) and £4 (Second Prize) given by the National Pig Breeders' Association for the best groups of four Pigs, bred by Exhibitor, in Classes 341 to 343 and 345 to 347. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Middle White Sow.

[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Middle White Pig.

2720 III. (£3.)—A. Howard Lamin, Starnhill, Bingham, Notts, for **Bestwood Chosen 5th** 186004 (151), born Jan. 4; *s.* Hammonds Hercules 4th 63293, *d.* Bestwood Chosen 183394 *by* Salts Deliverance 8th 55145.

2718 IV. (£2.)—W. Hallas, Bank House Farm, Helsby, Warrington, for **Hallastone Pride 7th** 186532 (1936), born Jan. 2; *s.* Hallastone Marquis 20th 63251, *d.* Hallastone Pride 5th 183992 *by* Hallastone Bushman 4th 58883.

2729 V. (£1.)—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for **Compton Patty 3rd** 186238 (243), born Jan. 4, bred by S. Bide & Sons, Ltd., Farnham, Surrey; *s.* Salts Baron 63761, *d.* Compton Patrina 162980 *by* Wharncliffe Master 46847.

2711 R. N.—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Shawlands Lady Choice 31st.**

H. C.—2712, 2717, 2719, 2724, 2725. C.—2722, 2726, 2728.

Class 346.—*Middle White Sows, born in* 1929, *on or after July* 1.

2732 I. (£10.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Princess 13th** (280), born July 3; *s.* Salts Deliverance 8th 55145, *d.* White Hill Hagar 5th 143958 *by* Pendley Warrior 45899.

2731 II. (£5.)—Sir Gomer Berry, Bart., for **Pendley Princess 12th** (279), born July 3; *s.* Salts Deliverance 8th 55145, *d.* White Hill Hagar 5th 143958 *by* Pendley Warrior 45899.

2744 III. (£3.)—Mrs. Hayes Sadler, Roundstone Farm, Ferring, Sussex, for **Norsbury Welcome 45th** (2218), born July 10; *s.* Norsbury Hivite 2nd 67815, *d.* Norsbury Welcome 2nd 120932 *by* Norsbury Vaughan 39201.

2730 IV. (£2.)—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Shawlands Choice 28th** (238), born July 3; *s.* Whitehill Hasty 3rd 59743, *d.* Burningfold Choice 10th 186106 *by* Mistley Miller 45369.

2742 V. (£1.)—G. H. Rose, Laybrook Home Farm, Thakeham, Pulborough, for **Laybrook Rance** (158), born Aug. 15; *s.* Compton Choice Lad 3rd 67529, *d.* Burningfold Rance 4th 183574 *by* Mistley Miller 45369.

2736 R. N.—George Gee, Mayford House, Mayford, Woking, for **Mayford Lady Rachel 2nd.**

H. C.—2733, 2740, 2743.

Class 347.—*Middle White Sows, born in* 1930.

2757 I. (£10.)—Hicks & Sons, High Fordon, Wold Newton, Driffield, for **Fordon Veracity** (213), born Jan. 7; *s.* Defender of Ypres 43857, *d.* Fordon Vera 18th 163382 *by* Somerdon Ben 32427.

2766 II. (£5.)—Mrs. Hayes Sadler, Roundstone Farm, Ferring, Sussex, for **Norsbury Virtue 40th** (2304), born Jan. 5; *s.* Norsbury Jupiter 67829, *d.* Norsbury Virtue 32nd *by* Norsbury Hivite 59267.

2746 III. (£3.)—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Shawlands Miss Dorothy 7th** (461), born Jan. 1; *s.* Salts Deliverance 15th 59445, *d.* Mistley Dorothy 232nd 184680 *by* Hawthorn Sultan 15th 54669.

2755 IV. (£2.)—T. H. Gladstone, Eastcote Grange, Hampton-in-Arden, Warwickshire, for **Barston Lady 10th** (429), born Jan. 17; *s.* Salts Illustrious 67949, *d.* Barston Lady 3rd 133676 *by* Fordon Max 2nd 38579.

2749 V. (£1.)—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring, for **Pendley Princess 15th** (322), born Jan. 4; *s.* Shawlands Deliverance 10th, *d.* White Hill Hagar 5th 143958 *by* Pendley Warrior 45899.

2762 R. N.—Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop, for **Wharfedale Sunshine.**

H. C.—2748, 2754, 2759, 2763, 2764. C.—2751, 2756, 2765.

Tamworths.

Class 348.—*Tamworth Boars, born in or before* 1928.

2769 I. (£10, & R. N. for Champion.[1])—E. Clifton-Brown, Burnham Grove, Burnham, Bucks, for **Milton Prince 2nd** 66503 (302), born April 20, 1927, bred by C. L. Coxon, Milton, Pembridge, Leominster; *s.* Basildon Golden Prince 7th 47071, *d.* Basildon Reflection 8th 144680 *by* Milton Bishop 2nd 36041.

2772 II. (£5.)—Walter W. Ryman, Wall, Lichfield, for **Hookstile Red Start** 70585 (215), born Jan. 15, 1928, bred by Theo. A. Stephens, Frensham Mill, Farnham, Surrey; *s.* Berkswell Red Start 66478, *d.* Hookstile Duchess 4th 178232 *by* Roxley Edward 3rd 47155.

2773 III. (£3.)—Lt.-Col. C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire, for **Verzons Michael** 66529 (30), born Jan. 15, 1928, bred by G. F. Fenwick, The Verzons, Ledbury; *s.* Peartown Brown Clee 55587, *d.* Verzons Miriam 178344 *by* Whitehouse Cardinal 59883.

Class 349.—*Tamworth Boars, born in* 1929.[2]

2778 I. (£10, Champion,[1] & R. N. for Champion.[3])—Lt.-Col. C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire, for **Wall Up to Date** (19), born April 28, bred by W. W. Ryman, Wall, Lichfield; *s.* Hookstile Red Start 70585, *d.* Whittingham Sally 4th 192582 *by* Caldmore Joe 64165.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Tamworth Boar.

[2] Prizes given by the National Pig Breeders' Association.

[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Tamworth Pig.

2777 II. (£5.)—R. P. HAYNES, Delves Green Farm, Wednesbury, for **Wall Red Start 2nd** (13), born April 16, bred by W. W. Ryman, Wall, Lichfield; *s.* Hookstile Red Start 70585, *d.* Whittingham Sculptress 8th 192536 *by* Caldmore Joe 64165.

2776 III. (£3.)—J. ALBERT FROST, New Hall Farm, Sutton Coldfield, for **Coldfield Mike** 70575 (13), born March 18; *s.* Verzons Michael 66529, *d.* Basildon Bashful 13th 167152 *by* Milton Bishop 2nd 36041.

2774 W. A. BINDLEY, Woodbourne, Augustus Road, Edgbaston, for **Pamington Golden Eagle.**

Class 350.—*Tamworth Boars, born in* 1930.

2785 I. (£10.)—WALTER W. RYMAN, Wall, Lichfield, for **Verzons David** (55), born Jan. 15, bred by G. F. Fenwick, The Verzons, Ledbury; *s.* Coldfield Norman 66487, *d.* Wall Diamond 2nd 183284 *by* Hamstall Ridware 64169.

2781 II. (£5.)—W. LINDSAY EVERARD, M.P., Ratcliffe Hall, Leicester, for **Ratcliffe John** (15), born Jan. 10; *s.* Verzons Carol 66527, *d.* Basildon Pansy 183084 *by* Knowle Brutus 2nd 47127.

2787 III. (£3.)—LT.-COL. C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Verzons Mathew** (51), born Jan. 3, bred by G. F. Fenwick, The Verzons, Ledbury; *s.* Booley Caradoc 64157, *d.* Verzons Miriam 178344 *by* Whitehouse Cardinal 59883.

2780 R. N.—E. CLIFTON-BROWN, Burnham Grove, Burnham, Bucks, for **Milton Luck.**

Class 351.—*Tamworth Breeding Sows, born in or before* 1928.

2793 I. (£10, & R. N. for Champion.[1])—WALTER W. RYMAN, Wall, Lichfield, for **Wall Diamond 4th** 183288 (11), born March 14, 1928, farrowed Jan. 4; *s.* Hamstall Ridware 64169, *d.* Milton Diamond 178292 *by* Verzons Beefeater 55615.

2789 II. (£5.)—W. A. BINDLEY, Woodbourne, Augustus Road, Edgbaston, for **Berkswell Constance 4th** 183106 (72), born July 25, 1927, farrowed Jan. 14, bred by Lt.-Col. C. J. H. Wheatley, Berkswell Hall, Berkswell; *s.* Verzons Red Gauntlet 59881, *d.* Berkswell Constance 167214 *by* Knowle Councillor 59861.

2794 III. (£3.)—LT.-COL. C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Beauty** 167210 (165), born Jan. 8, 1926, farrowed Feb. 4; *s.* Milton Beau 55573, *d.* Berkswell Jezebel 144700 *by* Knowle Newcastle 47143.

2795 R. N.—LT.-COL. C. J. H. WHEATLEY, for **Berkswell Bliss.**

Class 352.—*Tamworth Sows, born in* 1929.

2798 I. (£10, Champion,[2] & Champion.[1])—WALTER W. RYMAN, Wall, Lichfield, for **Bladen Brilliant 5th** 102444 (363), born March 27, bred by E. R. Debenham, Briantspuddle, Dorchester; *s.* Berkswell Bass 55547, *d.* Basildon Brilliant 10th 155648 *by* Knowle Newcastle 47143.

2800 II. (£5.)—LT.-COL. C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Gloriana** 192372 (14), born Jan. 6; *s.* Basildon Tommy Kirnam 10th 64139, *d.* Milton Bess 33rd 183234 *by* Darfield Joe 59859.

2799 III. (£3.)—LT.-COL. C. J. H. WHEATLEY, for **Berkswell Angela** 192368 (73), born March 12; *s.* Verzons Michael 66529, *d.* Berkswell Constance 167214 *by* Knowle Councillor 59861.

2796 R. N.—THE MARQUIS OF BLANDFORD, Lowesby Hall, Leicester, for **Ratcliffe Caroline.**

Class 353.—*Tamworth Sows, born in* 1930.

2808 I. (£10.)—LT.-COL. C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Verzons Margaret** (54), born Jan. 3, bred by G. F. Fenwick, The Verzons, Ledbury; *s.* Booley Caradoc 64157, *d.* Verzons Miriam 178344 *by* Whitehouse Cardinal 59883.

2806 II. (£5.)—LT.-COL. C. J. H. WHEATLEY, for **Berkswell Philippa** (210), born Jan. 6; *s.* Verzons Michael 66529, *d.* Berkswell Constance 2nd 183102 *by* Verzons Red Gauntlet 59881.

2809 III. (£3.)—THOMAS R. WILSON, White House Farm, Rufforth, York, for **Rufforth Bluebell** (3), born Jan. 2; *s.* Verzons Christopher 70597, *d.* Berkswell Red Cap 4th 192428 *by* Basildon Tommy Kirnam 10th 64139.

2810 R. N.—THOMAS R. WILSON, for **Rufforth Primrose.**

Berkshires.

Class 354.—*Berkshire Boars, born in or before* 1928.

2819 I. (£10, & R. N. for Champion.[3])—FRANK TOWNEND, Highfield, Moor Allerton, Leeds, for **Highfield Roy President 8th** 1638, born July 28, 1925; *s.* Highfield Royal President 2nd 339, *d.* Harewood Bridget 1258 *by* Herriard Clondyke 23100.

2813 II. (£5.)—SIR GOMER BERRY, BART., Pendley Stock Farms, Tring, for **Highfield Royal President 19th**, born Sept. 1, 1926, bred by Frank Townend, Highfield, Moor Allerton, Leeds; *s.* Highfield Royal President 2nd 339, *d.* Highfield Princess Royal 5th 1406 *by* Pamber President 22702.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Tamworth Sow.

[2] Silver Challenge Cup given by the National Pig Breeders' Association for the best Tamworth Pig.

[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Boar.

2820 **III.** (£3.)—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Rudgate Hercules** 2595, born Feb. 17, 1928; *s.* Rudgate Renown 2219, *d.* Fulford Princess Royal 5770 *by* Highfield Royal President 2nd 339.

2812 **IV.** (£2.)—S. Cecil Armitage, Lenton Fields, Nottingham, for **Richings Beau Royal** 2987, born August 10, 1928, bred by Eric Sykes, Richings Park, Colnbrook; *s* Highfield Royal Pygmalion 3rd 852, *d.* Richings Orange Girl 2nd 8524 *by* Richings Royalist 2nd 1394.

2817 **R. N.**—Harry C. Inwood, Ridgemoor, Burghclere, Newbury, for **Highfield Royal Pygmalion 13th.**

Class 355.—*Berkshire Boars, born in* 1929, *before July* 1.

2825 **I.** (£10, **Champion,**[1] **& R. N. for Champion.**[2])—Frank Townend, Highfield, Moor Allerton, Leeds, for **Bridge Keyring** 2771, born Feb. 28, bred by J. Fricker, Junr., Hardington, Yeovil; *s.* Bridge Keystone 1961, *d.* Bungays Vida 9170 *by* Bungays Select 1915.

2823 **II.** (£5.)—T. E. Prest, Chapel Farm, Swinton, Malton, for **Chapel Amanullah** 2801, born June 1; *s.* Woodhouse Amanullah 2nd 2691, *d.* Swinton Pet Margaret 5th 10042 *by* Swinton President 1135.

2822 **III.** (£3.)—Canford Schools, Canford, Wimborne, for **Chapel President** 2803, born Jan. 5, bred by T. E. Prest, Chapel Farm, Swinton, Malton; *s.* Highfield Royal President 6th 1638, *d.* Swinton Careful Margery 6402 *by* Hammonds Carrier 1022.

Class 356.—*Berkshire Boars, born in* 1929, *on or after July* 1.[3]

2826 **I.** (£10.)—S. Cecil Armitage, Lenton Fields, Nottingham, for **Lenton Grand Duke** 2947, born July 25; *s.* Leadenham Duke 748, *d.* Lagents Victoria Margaret 8176 *by* Eaton Vortigern 398.

2832 **II.** (£5.)—Harry C. Inwood, Ridgemoor, Burghclere, Newbury, for **Ridgemoor Pygmalion 8th,** born Aug. 7; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Hillfoot Princess 3rd 7960 *by* Pamber Ace of Spades 25757.

2831 **III.** (£3.)—Harry C. Inwood, for **Ridgemoor Pygmalion 7th,** born Aug. 7; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Hillfoot Princess 3rd 7960 *by* Pamber Ace of Spades 25757.

2830 **IV.** (£2.)—Hillsborough Farm, Canford, Wimborne, for **Hillsborough Boniface** 2891 (87), born July 3; *s.* Ashe Marvel 1931, *d.* Woodhouse Joyce 6067 *by* Stonehenge Druid 1560.

2836 **V.** (£1.)—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Rudgate Rustic,** born July 24; *s.* Rudgate Reliance 2601, *d.* Rudgate Royal Lady 9954 *by* Rudgate Renown 2219.

2835 **R. N.**—Frank Townend, Highfield, Moor Allerton, for **Highfield Royal President 33rd.**
H. C.—2828. **C.**—2829.

Class 357.—*Berkshire Boars, born in* 1930.

2844 **I.** (£10.)—T. E. Prest, Chapel Farm, Swinton, Malton, for **Chapel Keynote,** born Jan. 6; *s.* Bridge Keynote 2365, *d.* Bridge Dahlia 7414 *by* Iwerne Exchequer 784.

2841 **II.** (£5.)—George Fillingham, Syerston Hall, Newark, for **Syerston Duke,** born Jan. 12; *s.* Geeston Baron 2425, *d.* Syerston Augusta 5th 10048 *by* Godinton President 3rd 1816.

2843 **III.** (£3.)—Harry C. Inwood, Ridgemoor, Burghclere, Newbury, for **Ridgemoor Pygmalion 9th,** born Jan. 3; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Ridgemoor Empress 11054 *by* Monarch 1730.

2840 **IV.** (£2.)—George Fillingham, for **Syerston Baronet,** born Jan. 12; *s.* Geeston Baron 2425, *d.* Syerston Augusta 3rd 10044 *by* Godinton President 3rd 1816.

2839 **R. N.**—Canford Schools, Canford, Wimborne, Dorset, for **Canford Mr. Prim 6th.**
H. C.—2842. **C.**—2846.

Class 358.—*Berkshire Breeding Sows, born in or before* 1928.

2851 **I.** (£10, **Champion,**[2] **& Champion.**[4])—Canford Schools, Canford, Wimborne, for **Southworth Lunn 12th** 9982, born July 14, 1927, farrowed Feb. 10, bred by Joshua Ball, Southworth Hall, Warrington; *s.* Heale Nutmeg 2nd 26448, *d.* Southworth Lunn 5th 8570 *by* Swinton Printer 1309.

2853 **II.** (£5.)—Frank Townend, Highfield, Moor Allerton, Leeds, for **Highfield Princess Royal 42nd** 7185, born Aug. 4, 1926, farrowed Jan. 20; *s.* Highfield Royal President 2nd 339, *d.* Highfield Princess Royal 24th 5296 *by* Highfield Marina Baronet 3rd 1109.

2854 **III.** (£3.)—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Fulford Princess Royal** 5770, born Sept. 11, 1925, farrowed March 12; *s.* Highfield Royal President 2nd 339, *d.* Highfield Princess Royal 19th 5124 *by* Highfield Marina President 341.

2849 **R. N.**—S. Cecil Armitage, Lenton Fields, Nottingham, for **Lagents Victoria Margaret.**
H. C.—2852.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Boar.

[2] The "Eaton" Silver Challenge Cup given through the National Pig Breeders' Association for the best Berkshire Pig.

[3] Prizes, except Fourth and Fifth, given by the National Pig Breeders' Association.

[4] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Sow.

Class 359.—*Berkshire Sows, born in* 1929, *before July* 1.

2861 **I. (£10.)**—Frank Townend, Highfield, Moor Allerton, Leeds, for **Chapel Pet Margaret** 10584, born June 1, bred by T. E. Prest, Swinton, Malton; *s.* Woodhouse Amanullah 2nd 2691, *d.* Swinton Pet Margaret 5th 10042 *by* Swinton President 1135.

2862 **II. (£5.)**—Frank Townend, for **Godinton May Burton 6th** 10716, born Jan. 14, bred by the Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent; *s.* Richings British Royalist 2203, *d.* Godinton May Burton 2nd 9468 *by* Highfield Roy President 8th 1665.

2859 **III. (£3.)**—Hillsborough Farm, Canford, Wimborne, for **Hillsborough Miss Prim 2nd**, born April 25; *s.* Ashe Marksman 1893, *d.* Woodhouse Miss Prim 4th 10236 *by* Stonehenge Druid 1560.

2855 **IV. (£2.)**—S. Cecil Armitage, Lenton Fields, Nottingham, for **Bridge Vida** 10462, born Feb. 28, bred by J. Fricker, Junr., Hardington, Yeovil; *s.* Bridge Keystone 1961, *d.* Bungays Vida 9170 *by* Bungays Select 1915.

2857 **R. N.**—George Fillingham, Syerston Hall, Newark, for **Syerston Sally Lunn 7th**.

H. C.—2858. **C.**—2860.

Class 360.—*Berkshire Sows, born in* 1929, *on or after July* 1.

2873 **I. (£10, & R. N. for Champion.[1])**—Frank Townend, Highfield, Moor Allerton, Leeds, for **Swinton Proud Queen**, born July 1, bred by Major Clive Behrens, Swinton Grange, Malton; *s.* Swinton President 1135, *d.* Swinton High Queen 4th *by* Highfield Roy President 6th 1638.

2870 **II. (£5.)**—Harry C. Inwood, Ridgemoor, Burghclere, Newbury, for **Ridgemoor Empress 3rd**, born July 2; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Ridgemoor Empress 11054 *by* Monarch 1730.

2867 **III. (£3.)**—E. Clifton-Brown, Burnham Grove, Burnham, Bucks, for **Burnham Spice**, born Aug. 11; *s.* Burnham Pedlar 2787, *d.* Ashe Spice 7260 *by* Heale Nutmeg 2nd 26448.

2865 **IV. (£2.)**—S. Cecil Armitage, Lenton Fields, Nottingham, for **Lenton Grand Duchess 2nd** 10940, born July 25; *s.* Leadenham Duke 748, *d.* Lagents Victoria Margaret 8176 *by* Eaton Vortigan 398.

2871 **V. (£1.)**—Harry C. Inwood, for **Ridgemoor Golden Melody 3rd**, born July 2; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Ridgemoor Golden Melody 8534 *by* Motcombe Scott 22259.

2874 **R. N.**—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Rudgate Queenie 2nd**.

H. C.—2869. **C.**—2872.

Class 361.—*Berkshire Sows, born in* 1930.

2880 **I. (£10.)**—George Fillingham, Syerston Hall, Newark, for **Syerston Sally Lunn 13th**, born Jan. 29; *s.* Geeston Baron 2425, *d.* Syerston Sally Lunn 2nd 8864 *by* Highfield Baron 3rd 1417.

2885 **II. (£5.)**—Harry C. Inwood, Ridgemoor, Burghclere, Newbury, for **Ridgemoor Empress 4th**, born Jan. 3; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Ridgemoor Empress 11054 *by* Monarch 1730.

2886 **III. (£3.)**—T. E. Prest, Chapel Farm, Swinton, Malton, for **Chapel Dahlia**, born Jan. 6; *s.* Bridge Keynote 2365, *d.* Bridge Dahlia 7414 *by* Iwerne Exchequer 784.

2879 **IV. (£2.)**—George Fillingham, for **Syerston Augusta 7th**, born Jan. 12; *s.* Geeston Baron 2425, *d.* Syerston Augusta 3rd 10044 *by* Godinton President 3rd 1816.

2887 **V. (£1.)**—Eric Sykes, Richings Park, Iver, Bucks, for **Richings Marina British Queen**, born Jan. 27; *s.* Richings Royalist 2nd 1394, *d.* Highfield Marina British Queen 4898 *by* Highfield Royal President 2nd 339.

2884 **R. N.**—Hillsborough Farm, Canford, Wimborne, for **Hillsborough Rosa 2nd**.

H. C.—2883. **C.**—288o.

Cup.[2]—Frank Townend.

R. N. for Cup.[2]—Harry C. Inwood.

Wessex Saddlebacks.

Class 362.—*Wessex Saddleback Boars, born in or before* 1928.

2892 **I. (£10, Champion,[3] & R. N. for Champion.[4])**—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Carlos of Slythehurst** 3024, born Jan. 8, 1927, bred by O. Ellis, Nurscombe, Bramley, Guildford; *s.* Slythehurst Prince Charlie 2713, *d.* Shillinglee Heroine 2nd 9078 *by* Norman of Shillinglee 1286.

2894 **II. (£5.)**—H. G. Lakin, Pipers Hill, Leamington, for **Slythehurst Baron** 2898, born June 24, 1926, bred by Dr. W. H. Forshaw, Slythehurst, Ewhurst; *s.* Slythehurst Bar-None 2336, *d.* Slythehurst Chance 11807 *by* Kingsland Charlie 1812.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Sow.

[2] The "Berkshire" Silver Challenge Cup given through the National Pig Breeders' Association for the most points awarded in a combination of entries.

[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Boar.

[4] Silver Challenge Cup given by the National Pig Breeders' Association for the best Pig.

2893 III. (£3.)—Frank William Gilbert, The Manor, Chellaston, Derby, for **Chellaston Breaker** 3158, born Jan. 11, 1928; *s.* Chellaston Merry Lad 2927, *d.* Axhill Breakaway 12278 *by* Cattistock Gone Away 1729.

2891 R. N.—H. L. Brooksbank, Sandrock, Tickhill, Yorks, for **Pipers Barbarian.**

Class 363.—*Wessex Saddleback Boars, born in* 1929.[1]

2896 I. (£10, & R. N. for Champion.[2])—H. G. Lakin, Pipers Hill, Leamington, for **Pipers Duke** 3284, born Jan. 2; *s.* Slythehurst Baron 2898, *d.* Pipers Delicate 13724 *by* Tring Commander 2115.

2897 II. (£5.)—Col. G. H. Mytton, Chadlington Downs, Chipping Norton, for **Besford Hero 3rd** 3376, born Jan. 18, bred by H. H. Harris, New Farm, Besford, Worcester; *s.* Offa Hero 1st 1914, *d.* Besford Brenda 7th 13751 *by* Southcroft Stone Cracker 2690.

2895 III. (£3.)—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Preston Democrat** 3361, born Feb. 24, bred by Douglas Vickers, Temple Dinsley, Hitchin; *s.* Brandon Tomahawk 2879, *d.* Preston Dorothy 13534 *by* Preston Sphinx 1st 2628.

Class 364.—*Wessex Saddleback Boars, born in* 1930.

2901 I. (£10.)—H. H. Harris, New Farm, Besford, Worcester, for **Besford Hero 7th**, born Jan. 11; *s.* Offa Hero 1st 1914, *d.* Besford Brenda 8th 13914 *by* Shillinglee Swell 2002.

2898 II. (£5.)—H. L. Brooksbank, Sandrock, Tickhill, Yorks, for **Preston Odin** 3369, born Jan 3, bred by Douglas Vickers, Temple Dinsley, Hitchin; *s.* Yarty Monarch 3rd 3282, *d.* Preston Orchid 4th 14316 *by* Preston Senator 2nd 2766.

2000 III. (£3.)—Frank William Gilbert, The Manor, Chellaston, Derby, for **Chellaston Rover 2nd** 3375, born Jan. 2; *s.* Chellaston Rover 3278, *d.* Godalming Nell 4th 10445 *by* Godalming Wonder 1498.

2902 R. N.—H. G. Lakin, Pipers Hill, Leamington, for **Pipers Masterpiece.**

Class 365.—*Wessex Saddleback Breeding Sows, born in or before* 1928.

2904 I. (£10, & R. N. for Champion.[3])—H. L. Brooksbank, Sandrock, Tickhill, Yorks, for **Sandrock Star** 14376, born Aug. 14, 1926, farrowed Jan. 28; *s.* Welwyn Rufus 2502, *d.* Ashe Star 5th 12029 *by* Ashe Mac 2nd 680.

2905 II. (£5.)—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Diana of Slythehurst** 14583, born July 3, 1927, farrowed Feb. 3, bred by Mrs. Zillah Walker, Slythehurst, Ewhurst, Guildford, *s.* Slythehurst Baron 2898, *d.* Slythehurst Daphne 13559 *by* Godalming Dandy 2359.

2912 III. (£3.)—Col. G. H. Mytton, Chadlington Downs, Chipping Norton, for **Holbury Break of Day** 14732, born Jan. 6, 1928, farrowed Jan. 1, bred by R. Southwell, Holbury Farm, Lockerley, Romsey; *s.* Awebridge Standard 2646, *d.* Holbury Sylvia 6401 *by* Norman Perfection 660.

2907 R. N.—Frank William Gilbert, The Manor, Chellaston, Derby, for **Mere Ruby.**
H. C.—2908, 2909.

Class 366.—*Wessex Saddleback Sows, born in* 1929.

2916 I. (£10, Champion,[3] & Champion.[4])—Frank William Gilbert, The Manor, Chellaston, Derby, for **Preston Druidess** 15175, born Jan. 13, bred by Douglas Vickers, Temple Dinsley, Hitchin; *s.* Brandon Tomahawk 2nd 2879, *d.* Preston Dorcas 2nd 14030 *by* Preston Senator 2nd 2766.

2915 II. (£5.)—Frank William Gilbert, for **Chellaston Oakleaf 2nd** 15396, born March 13; *s.* Chellaston Gone Away 3159, *d.* Preston Oakleaf 2nd 13731 *by* Oakley Prior 1678.

2914 III. (£3.)—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Slythehurst Diadem** 15141, born Jan. 18; *s.* Bar of Slythehurst 2976, *d.* Diana of Slythehurst 14583 *by* Slythehurst 2898.

2913 R. N.—H. L. Brooskbank, Sandrock, Tickhill, Yorks, for **Sandrock Duchess.**
H. C.—2918.

Class 367.—*Wessex Saddleback Sows, born in* 1930.

2021 I. (£10.)—Frank William Gilbert, The Manor, Chellaston, Derby, for **Chellaston Sally 7th** 15525, born Jan. 12; *s.* Besford Hero 1st 3168, *d.* Chellaston Sally 5th 14658 *by* Preston Dolphin 1st 2967.

2920 II. (£5.)—H. L. Brooksbank, Sandrock, Tickhill, Yorks, for **Preston Vetch** 15515, born Jan. 4, bred by Douglas Vickers, Temple Dinsley, Hitchin; *s.* Godalming Masterpiece 3rd 3242, *d.* Preston Valerie 1st 14574 *by* Pipers Adrian 2243.

2922 III. (£3.)—H. H. Harris, New Farm, Besford, Worcester, for **Besford Rose 39th**, born Jan. 14; *s.* Offa Hero 1st 1914, *d.* Besford Rose 5th 10368 *by* Dewchurch Oliver Twist 1068.

2923 R. N.—H. G. Lakin, Pipers Hill, Leamington, for **Pipers Matchless.**
H. C.—2924, 2926.

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[1] Prizes given by the National Pig Breeders' Association.
[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Boar.
[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Sow.
[4] Silver Challenge Cup given by the National Pig Breeders' Association for the best Pig.

Large Blacks.

Class 368.—*Large Black Boars, born in or before* 1928.

2929 I. (£10, & Champion.[1])—D. W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Trewithen Bounder** C 853, born July 3, 1926, bred by W. Truscott, Trewithen, St. Austell; *s.* Cargoll 12th A 143, *d.* Trewithen Queen 1st A 4884 *by* Treluckey Traveller 1st 30685.

2927 II. (£5.)—The Marquess of Ailesbury, Savernake Forest, Wilts, for **Savernake Ranger's Model** C 907, born March 3, 1926; *s.* Savernake Forest Ranger 25517, *d.* Savernake Wax-match 130850 *by* Fentongollan Regent 20343.

2932 III. (£3.)—Walter J. Warren, Deacons Farm, Staplegrove, Taunton, for **Kibbear Royal Henry 1st** D 679, born Aug. 27, 1927; *s.* Tinten Doleful Dick C 1031, *d.* Kibbear Royal Lady 12th C 220 *by* Kibbear Royal Willie 25777.

2934 R. N.—Walter Woolland, Baydon Manor, Ramsbury, Marlborough, for **Streetly Diamond.**

H. C.—2930.

2929, 2969, 2997, Gold Vase.[2]—D. W. G. Gough, for **Trewithen Bounder, Treslay Sapphire 2nd and Pakenham Lusty 1st.**

2934, 2979, 3001, R. N. for Gold Vase.[2]—Walter Woolland, for **Streetly Diamond, Cornwood Lass 92nd and Baydon Nightingale 69th.**

Class 369.—*Large Black Boars, born in* 1929, *before July* 1.

2937 I. (£10.)—D. W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Tartar Anticipation** F 381, born Jan. 7, bred by G. A. Goodchild, Great Yeldham Hall, Essex; *s.* Tartar Sample D 109, *d.* Tartar Victoria 5th A 3768 *by* Drayton Mikado 1st 11859.

2936 II. (£5.)—G. A. Goodchild, Great Yeldham Hall, Essex, for **Tartar Mandarin** F 67, born Jan. 7; *s.* Tartar Sample D 109, *d.* Tartar Victoria 5th A 3768 *by* Drayton Mikado 1st 11859.

2935 III. (£3.)—The Marquess of Ailesbury, Savernake Forest, Wilts, for **Savernake Perfection** F 311, born Feb. 18; *s.* Savernake Rangers Model C 907, *d.* Savernake Ladylike 10th D 2714 *by* Savernake Range Finder C 747.

Class 370.—*Large Black Boars, born in* 1929, *on or after July* 1.[3]

2946 I. (£10.)—Walter Woolland, Baydon Manor, Ramsbury, Marlborough, for **Baydon Highlander 14th** F 447, born Sept. 1; *s.* Baydon Highlander 1st D 507, *d.* Baydon Nightingale 13th B 938 *by* Drayton Royal's Son 3rd 27581.

2941 II. (£5.)—Frank William Gilbert, The Manor, Chellaston, Derby, for **Patshull Leader 1st** F 223, born July 10, bred by the Earl of Dartmouth, Patshull House, Wolverhampton; *s.* Tinten Leader C 849, *d.* Patshull Susan 4th D 594 *by* Patshull Prince 1st B 405.

2944 III. (£3.)—Geoffrey G. Myatt, Beechcroft, Kilmington, Axminster, for **Kilmington Royal Laddie** F 387, born Aug. 23; *s.* Kibbear Royal Henry 1st D 679, *d.* Kilmington Lassie B 3430 *by* Maxwelltoun Laddie 11th 26689.

2945 R. N.—Walter Woolland, for **Baydon Highlander 13th.**

H. C.—2942.

Class 371.—*Large Black Boars, born in* 1930.

2948 I. (£10, & R. N. for Champion.[1])—Harry E. Bastard, Tinten Manor, St. Tudy, Cornwall, for **Tinten Waggoner 1st** G 9, born Jan. 10; *s.* Westpetherwin Leader 2nd E 553, *d.* Tinten Princess 20th D 2688 *by* Martham Marvel 22073.

2952 II. (£5.)—G. A. Goodchild, Great Yeldham Hall, Essex, for **Tartar Agent** G 95, born Jan. 16; *s.* Kedington Broker E 469, *d.* Tartar Victoria 5th A 3760 *by* Drayton Mikado 1st 11859.

2955 III. (£3.)—T. F. James, Chantersluer Farm, Norwood Hill, Horley, for **Treluckey Radio 1st** G 25, born Jan. 2; *s.* Valley Satisfaction 2nd D 673, *d.* Treluckey Black Lady 32nd C 2396 *by* Treluckey Pedestrian 1st B 183.

2947 IV. (£2.)—W. J. Ackerman, Langland Farm, Catcott, Bridgwater, for **Langland Dandy** G 83, born Jan. 8; *s.* Langland Smiling Dick E 107, *d.* Cornwood Souvenir C 2962 *by* Martham Marvel 22078.

2961 V. (£1.)—Frank Sainsbury, Blunt's Hall, Little Wratting, Haverhill, for **Kedington None Such** G 97, born Jan. 20; *s.* Treslay None Such 1st E 361, *d.* Kedington Cheery 2nd C 1906 *by* Sudbourne Ike 11919.

2956 R. N.—Miss Kay-Mouat, Firs Farm, Malvern Wells, for **McHeather Bob 53rd.**

H. C.—2954, 2957, 2962.

Class 372.—*Large Black Breeding Sows, born in or before* 1928.

2969 I. (£10, & Champion.[4])—D. W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Treslay Sapphire 2nd** C 1868, born July 28, 1926, farrowed Jan. 24, bred by R. Gynn & Son, Treslay, Camelford; *s.* Treslay Blue Blood 1st B 477, *d.* Treslay Winsome 1st B 14 *by* Westpetherwin General A 111.

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[1] Silver Challenge Cup given by the Large Black Pig Society for the best Boar. A Gold Medal was given to the Breeder of the Champion Boar.

[2] The "Baydon" Gold Vase given through the Large Black Pig Society for the best Group consisting of one Boar from Classes 368, 369, and 370; one Breeding Sow from Class 372; and one Sow from Classes 372, 373, or 374.

[3] Prizes given by the Large Black Pig Society.

[4] Silver Challenge Cup given by the Large Black Pig Society for the best Sow. A Gold Medal was given to the Breeders of the Champion Sow.

2977 II. (£5.)—JOHN WARNE & SON, Tregonhayne Manor, Tregoney, Grampound Road, Cornwall, for **Banns Biddy 2nd** C 4332, born Nov. 28, 1926, farrowed Jan. 3, bred by W. Hoskin, St. Buryan, Penzance; *s.* Fentongollan Amir 2nd B 429, *d.* Banns Biddy B 1262 *by* Tredethy Hero 28675.

2964 III. (£3.)—THE MARQUESS OF AILESBURY, Savernake Forest, Wilts, for **Savernake Dimple 2nd** E 712, born Feb. 1, 1928, farrowed April 30; *s* Savernake Ranger's Model C 907, *d.* Savernake Daffodil 2nd B 206 *by* Savernake Emperor 30489.

2976 IV. (£2.)—R. HELLIER SMITH, West Newton, Bridgwater, for **West Newton Princess** D 1316, born May 28, 1927, farrowed Jan. 9; *s.* Kibbear Royal Prior 4th A 1225, *d.* Langland Princess 12th B 4070 *by* Cornwood Scorcher A 1227.

2975 V. (£1.)—FRANK SAINSBURY, Blunt's Hall, Little Wratting, Haverhill, for **Kedington Constance 13th** D 2426, born Aug. 1, 1927, farrowed Feb. 6; *s.* Kedington Brigand C 563, *d.* Kedington Constance 2nd 128718 *by* Ashby Lex 24747.

2979 R. N.—WALTER WOOLLAND, Baydon Manor, Ramsbury, Marlborough, for **Cornwood Lass 92nd.**

H. C.—2966, 2970, 2972.

Class 373.—*Large Black Sows, born in* 1929, *before July* 1.

2986 I. (£10, & R. N. for Champion.[1])—JOHN A. LAWFORD, Heronsdale Manor, Waldron Sussex, for **Broyle Souriya 1st** F 152, born Jan. 8; *s.* Treluckey Warrior 2nd C 995, *d.* Broyle Marostica 3rd D 314 *by* Arran Dandy 31159.

2988 II (£5.)—JOHN WARNE & SON, Tregonhayne Manor, Tregoney, Grampound Road, Cornwall, for **Menna Queen 133rd** F 734, born Jan. 10, bred by W. S. Ward, Menna, Grampound Road; *s.* Westpetherwin General A 111, *d.* Menna Queen 96th B 3440 *by* Warrens Park Dumpling A 223.

2984 III. (£3.)—THE EARL OF DARTMOUTH, Patshull House, near Wolverhampton, for **Patshull Susan 25th** F 920, born March 4; *s.* Patshull Heroic D 419, *d.* Patshull Susan 3rd D 592 *by* Patshull Prince 1st B 405.

2982 IV. (£2.)—H. E. BENNETT, Ditton Court Farm, Larkfield, Kent, for **Ambo Lady 33rd** F 634, born Jan. 29; *s.* Harescombe Marquis D 183, *d.* Ambo Lady 11th C 66 *by* Kingston Roland 26399.

2985 R. N.—D. W. P. GOUGH, Pakenham Manor, Bury St. Edmunds, for **Pakenham Prudent 1st.**

H. C.—2981, 2991.

Class 374.—*Large Black Sows, born in* 1929, *on or after July* 1.

2997 I. (£10.)—D. W. P. GOUGH, Pakenham Manor, Bury St. Edmunds, for **Pakenham Lusty 1st** F 1216, born Aug. 7; *s.* Valley Quality C 173, *d.* Pakenham Luck 1st C 60 *by* Awton Sampson 21891.

2999 II. (£5.)—GEOFFREY G. MYATT, Beechcroft, Kilmington, Axminster, for **Kilmington Lady L.** F 1112, born July 12; *s.* Kibbear Royal Henry 1st D 679, *d.* Kilmington Queen 2nd B 4044 *by* Kilmington Royal Victor 3rd 30345.

3001 III. (£3.)—WALTER WOOLLAND, Baydon Manor, Ramsbury, Marlborough, for **Baydon Nightingale 69th** F 1204, born Aug. 26; *s.* Baydon Prior 5th E 381, *d.* Baydon Nightingale 52nd E 162 *by* Valley General 2nd 25401.

2992 IV. (£2.)—W. J. ACREMAN, Langland Farm, Catcott, Bridgwater, for **Langland Princess 18th** F 1362, born July 10; *s.* Langland Sambo C 847, *d.* Luson Princess 4th 104432 *by* Westpetherwin Chief 1st 14433.

2994 R. N.—THE EARL OF DARTMOUTH, Patshull House, near Wolverhampton, for **Patshull Susan 22nd.**

H. C.—2993.

Class 375.—*Large Black Sows, born in* 1930.

3006 I. (£10.)—JOHN H. GLOVER, Cornwood, Devon, for **Cornwood Nancy 3rd** G 26, born Jan. 2; *s.* Patshull Monarch 1st D 425, *d.* Cornwood Lass 98th E 1976 *by* Langland Sambo C 847.

3011 II. (£5.)—JOHN A. LAWFORD, Heronsdale Manor, Waldron, Sussex, for **Broyle Lassie 5th** G 112, born Jan. 2; *s.* Treluckey Warrior 2nd C 995, *d.* Broyle Lassie 4th C 3482 *by* Arran Dandy 31159.

3003 III. (£3.)—HARRY E. BASTARD, Tinten Manor, St. Tudy, Cornwall, for **Tinten Black Bess 67th** G 14, born Jan. 2; *s.* Fentongollan Result 6th 31229, *d.* Tinten Black Bess 60th E 1132 *by* Tinten Leader C 849.

3018 IV. (£2.)—WALTER J. WARREN, Deacons Farm, Staplegrove, Taunton, for **Kibbear Lady Beauty 1st** G 22, born Jan. 5; *s.* Kibbear Royal Henry 1st D 679, *d.* Kibbear Beauty C 3200 *by* Kibbear Royal Prior 4th A 1225.

3002 V. (£1.)—W. J. ACREMAN, Langland Farm, Catcott, Bridgwater, for **Langland Lass 1st** G 136, born Jan. 8; *s.* Langland Smiling Dick E 107, *d.* Cornwood Souvenir C 2962 *by* Martham Marvel 22073.

3019 R. N.—WALTER J. WARREN, for **Kibbear Lady Beauty 2nd.**

H. C.—3005, 3010, 3016.

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[1] Silver Challenge Cup given by the Large Black Pig Society for the best Sow. A Gold Medal was given to the Breeder of the Champion Sow.

Cumberlands.

Class 382.—*Cumberland Boars, born in or before* 1928.

3021 **I. (£10.)**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Lonning Joker** 8214 (G.H.L.—J. 10), born July 23, 1927, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Aglionby David 6780, *d.* Lonning Daisy 7055 *by* Aglionby Express 2nd 6347.

3022 **II. (£5.)**—Mrs. Carleton-Cowper, Carleton Hall, Penrith, for **Eamont Peter Pan** 7399 (C.E.C.—H. 30), born Aug. 18, 1926; *s.* Stackhouse Monarch 5865, *d.* Eamont Ivy 6533 *by* Woodside Excel 5881.

3024 **III. (£3.)**—G. A. Wilson, Beckside Farm, Troutbeck, Windermere, for **Eamont Cherub** 8180 (C.E.C.—K. 17), born July 24, 1928, bred by Mrs. Carleton-Cowper, Carleton Hall Penrith; *s.* Eamont Peter Pan 7399, *d.* Bowston Hannah 7119 *by* Bowstone Fox 6362.

Class 383.—*Cumberland Boars, born in* 1929.[1]

3025 **I. (£10, & R. N. for Champion.[2])**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Lion** 8526 (B.W.W.—L. 24), born Jan. 28; *s* Lonning Joker 8214, *d.* Woodside Evie 8297 *by* Woodside Jester 6464.

3026 **II. (£5.)**—Mrs. Carleton-Cowper, Carleton Hall, Penrith, for **Eamont Fandango** 8535 (C.E.C.—L. 12), born March 5; *s.* Eamont Peter Pan 7399, *d.* Wetheral Bridget 8456 *by* George of Blackcombe 7413.

3027 **III. (£3.)**—Henry L. Gardhouse, Lonning Farm, Wigton, for **Aglionby Sir Harry** 8618 (M.X.I.—L. 1), born Jan. 24, bred by J. & W. Maxwell, Ltd., Aglionby Farm, Carlisle; *s.* High Financier 8198, *d.* Aglionby Snowstorm 7894 *by* Bowston Gerald 6367.

3028 **R. N.**—John S. Jordan, The Granary, Kendal, for **Bowston Leslie.**

H. C.—3031.

Class 384.—*Cumberland Boars, born in* 1930.

3036 **I. (£10.)**—Henry L. Gardhouse, Lonning Farm, Wigton, for **Lonning Marksman** 8915 (G.H.L.—M. 1), born Jan. 18; *s.* Aglionby Sir Harry 8618, *d.* Lonning Judith 8362 *by* Aglionby David 6780.

3038 **II. (£5.)**—John S. Jordan, The Granary, Kendal, for **Bowston Minor** (J O.R —M. 9), born March 16; *s.* Eamont Cherub 8180, *d.* Wampool Nora 7980 *by* Bowston Grenadier 6373.

3032 **III. (£3.)**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Matchless** 8918 (B.W.W.—M. 1), born Jan. 12; *s.* Lonning Joker 8214, *d.* Woodside Evie 8297 *by* Woodside Jester 6464.

3034 **IV. (£2.)**—Mrs. Carleton-Cowper, Carleton Hall, Penrith, for **Eamont Ikey** 8897 (C.E.C.—M. 1), born Jan. 9; *s.* Eamont Peter Pan 7399, *d.* Helena of Mill Villa 8621 *by* Wampool Gerald 7563.

3037 **R. N.**—John S. Jordan, for **Bowston Malcolm.**

Class 385.—*Cumberland Breeding Sows, born in or before* 1928.

3044 **I. (£10, & Champion.[2])**—John S. Jordan, The Granary, Kendal, for **Wampool Nora** 7980 (R.S.B.—J. 18), born March 12, 1927, farrowed March 16, bred by G. Robinson, Wampool, Kirkbride; *s.* Bowston Grenadier 6373, *d.* Bowston Geranium 6604 *by* Premier of Blackcoombe 5841.

3042 **II. (£5.)**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Heather** 6966 (B.W.W.—H. 21), born Feb. 19, 1926, farrowed Jan. 23; *s.* Stackhouse Monarch 5865, *d.* Moorish Maid 5895 *by* Wyndham Hero 3998.

3043 **III. (£3.)**—Mrs. Carleton-Cowper, Carleton Hall, Penrith, for **Eamont Carol** 8348 (C.E.C.—K. 19), born July 23, 1928, farrowed Feb. 7; *s.* Eamont Peter Pan 7399, *d.* Bowston Hannah 7119 *by* Bowston Fox 6362.

3041 **R. N.**—W. Bainbridge & Sons, for **Lonning Kitty.**

Class 386.—*Cumberland Sows, born in* 1929.

3049 **I. (£10.)**—Mrs. Carleton-Cowper, Carleton Hall, Penrith, for **Lonning Lucella** 8830 (G.H.L.—L. 10), born Jan. 18, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Bowston Grenadier 6373, *d.* Gay Lass 7050 *by* Croft Captain 5776.

3054 **II. (£5.)**—G. A. Wilson, Beckside Farm, Troutbeck, Windermere, for **Bowston Lass** 8735 (J.O.R.—L. 6), born Jan. 26, bred by J. S. Jordan, The Granary, Kendal; *s.* Drumleaning Anchor 8171, *d.* Wampool Nora 7980 *by* Bowston Grenadier 6373.

3046 **III. (£3.)**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Lucella** 8655 (B.W.W.—L. 48), born July 17; *s.* Lonning Joker 8214, *d.* Woodside Evie 8297 *by* Woodside Jester 6464.

3045 **IV. (£2.)**—W. Bainbridge & Sons, for **Lady of Windermere** (W.M.H.—L. 38), born July 22, bred by G. A. Wilson, Beckside Farm, Troutbeck, Windermere; *s.* Eamont Cherub 8180, *d.* High Grounds Bet 6th 8388 *by* Solway Bill 7537.

3050 **R. N.**—Mrs. A. W. Straker and Miss P. L. Straker, Stagshaw, Corbridge, Northumberland, for **Lonning Lena.**

H. C.—3053.

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[1] Prizes given by the Cumberland Pig Breeders' Association.

[2] Silver Challenge Cup given by the Cumberland Pig Breeders' Association for the best Pig.

Class 387.—*Cumberland Sows, born in* 1930.

3059 I. (£10.)—John S. Jordan, The Granary, Kendal, for **Bowston Margaret** (J.O.R.—M. 2), born Jan. 20; *s.* Eamont Cherub 8180, *d.* Bowston Lady 8734 *by* Drumleaning Anchor 8171.

3055 II. (£5.)—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Marie** (B.W.W.—M. 6), born Jan. 12; *s.* Lonning Joker 8214, *d.* Woodside Evie 8297 *by* Woodside Jester 6464.

3062 III. (£3.)—G. A. Wilson, Beckside Farm, Troutbeck, Windermere, for **Model of Windermere** (W.M.H.—M. 7), born Feb. 7; *s.* Eamont Cherub 8180, *d.* High Grounds Bet 6th 8388 *by* Solway Bill 7537.

3058 R. N.—Henry L. Gardhouse, Lonning Farm, Wigton, for **Lonning Midget.**
H. C.—3057. C.—3061.

Essex.

Class 388.—*Essex Boars, born in or before* 1928.

3063 I. (£10.)—H. S. Ashton, Trueloves, Ingatestone, Essex, for **Barling Neptune** 3261 (167), born Sept. 10, 1926, bred by Kemsley & Kemsley, Crouchman's Farm, Shoeburyness; *s.* Pan Ernest 2693, *d.* Barling Aster 5576 *by* Chelmer Cornsack 745.

3064 II. (£5.)—J. R. Tinney, Church End, Rickling, Newport, Essex, for **Barling Cadet** 2797 (10278), born Aug. 10, 1925, bred by Kemsley & Kemsley, Crouchman's Farm, Shoeburyness; *s.* Cressing Duke 7th 2271, *d.* Barling Virginia 13278 *by* Woolmer Soldier 1497.

Class 389.—*Essex Boars, born in* 1929.

3067 I. (£10.)—J. R. Tinney, Church End, Rickling, Newport, Essex, for **Rickling Gay Lad 4th** 3707 (368), born Jan. 5; *s.* Peadowns Gay Lad 3327, *d.* Rickling Fancy 4th 17570 *by* Rickling Reignier 6th 2521.

3066 II. (£5.)—J. R. Tinney, for **Barling Janus** 3671 (407), born June 29, bred by Kemsley & Kemsley, Crouchman's Farm, Shoeburyness; *s.* Cressing Jay 6th 3439, *d.* Barling Minty 18776 *by* Barling Colonel 2793.

Class 390.—*Essex Boars, born in* 1930.

3072 I. (£10.)—William Ritchie, Mark's Hall, Margaret Roding, Dunmow, for **Roothing Kaiser 5th** 3681 (413), born Jan. 2; *s.* Beauchamp Kaiser 3563, *d.* Roothing Lilac 2nd 18058 *by* Copyhold Generosity 2841.

3069 II. (£5.)—F. J. Bosworth, Green's Farm, Magdalen Laver, Ongar, for **Laver Bugler** 3713 (424), born Jan. 14; *s.* Thorley Drummer 3409, *d.* Laver Betty 18704 *by* Roothing Generosity 2nd 2423.

3073 III. (£3.)—William Ritchie, for **Roothing Kaiser 6th** 3683 (414), born Jan. 3; *s.* Beauchamp Kaiser 3563, *d.* Roothing Lilac 3rd 18060 *by* Copyhold Generosity 2841.

3068 R. N.—H. S. Ashton, Trueloves, Ingatestone, for **Cherry of Trueloves.** H. C.—3070.

Class 391.—*Essex Breeding Sows, born in or before* 1928.

3083 I. (£10.)—J. R. Tinney, Church End, Rickling, Newport, Essex, for **Rickling Charlotte 6th** 11466 (7376), born Aug. 25, 1923, farrowed March 25; *s.* Gosfield Scout 2nd 627, *d.* Rickling Charlotte 6848 *by* Hubbard's Admiral 45.

3078 II. (£5.)—Kemsley & Kemsley, Crouchman's Farm, Shoeburyness, for **Barling Lydia** 18772 (1363), born Feb. 10, 1927, farrowed Jan. 16; *s.* Barling Colonel 2793, *d.* Barling Lucia 15950 *by* Cressing Duke 7th 2271.

3079 III. (£3.)—William Ritchie, Mark's Hall, Margaret Roding, Dunmow, for **Roothing Biddy** 18712 (1338), born July 3, 1927, farrowed Jan. 25; *s.* Pan Ernest 2693, *d.* Barling Biddy 15948 *by* Cressing Duke 7th.

3076 R. N.—H. S. Ashton, Trueloves, Ingatestone, for **Trueloves Madcap.** H. C.—3077.

Class 392.—*Essex Sows, born in* 1929.[1]

3092 I. (£10, & Champion.[2])—T. H. Sochon, Tanfield Tye, West Hanningfield, Chelmsford, for **Tanfield Comet** 20274 (2050), born March 5; *s.* Peace King 3231, *d.* Thorley Lonesome 17650 *by* Rickling Reignier 8th 2525.

3084 II. (£5, & R. N. for Champion.[2])—H. S. Ashton, Trueloves, Ingatestone, Essex, for **Trueloves Charming** 19912 (1898), born Jan. 30; *s.* Roothing Laughter 13th 3209, *d.* Trueloves Geum 15828 *by* Trueloves Admiral 7th 1903.

3091 III. (£3.)—T. H. Sochon, for **Tanfield Coma** 20268 (2048), born Jan. 30; *s.* Peace King 3231, *d.* Barling Margaret 18354 *by* Barling Colonel 2793.

3085 IV. (£2.)—H. S. Ashton, for **Trueloves Compete** 19914 (1899), born Jan. 21; *s.* Roothing Laughter 13th 3209, *d.* Trueloves Date 17510 *by* Barling Governor 2493.

3094 V. (£1.)—J. R. Tinney, Church End, Rickling, Newport, Essex, for **Rickling Reliance 6th** 20426 (1917), born May 4; *s.* Peadowns Gay Lad 3327, *d.* Rickling Reliance 5th 19790 *by* Barling Sultan 1493.

3088 R. N.—Kemsley & Kemsley, Crouchman's Farm, Shoeburyness, for **Barling Emmeline.**
H. C.—3087. C.—3089.

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[1] Prizes, except Fourth and Fifth, given by the Essex Pig Society.

[2] Silver Champion Cup given by the Essex Pig Society for the best Pig.

Class 393.—*Essex Sows, born in* 1930.

3096 I. (£10.)—F. J. BOSWORTH, Green's Farm, Magdalen Laver, Ongar, for **Laver Lovely** 20354 (2135), born Jan 16; *s.* Pan Peacock 3601 *d* Laver Lively 19958 *by* Thorley Drummer 3409

3097 II. (£5.)—KEMSLEY & KEMSLEY, Crouchman's Farm, Shoeburyness, for **Barling Melon** 20384 (2148), born Jan 1, *s.* Cressing Jay 7th 3487, *d.* Barling Miriam 19244 *by* Barling Colonel 2793

3098 III. (£3.)—KEMSLEY & KEMSLEY, for **Barling Mistress** 20382 (2147), born Jan. 1, *s.* Cressing Jay 7th 3487, *d.* Barling Miriam 19244 *by* Barling Colonel 2793.

Long White Lop-Eared.

Class 394.—*Long White Lop-Eared Boars, born in or before* 1928.

3101 I. (£10, Champion,[1] & Champion.[2])—GEORGE H. EUSTICE, Bezurrell, Gwinear, Hayle, for **Afton Gay Boy** 1122, born Jan 15, 1926, bred by J. H. Pearse & Sons, Afton, Totnes; *s.* Yealmpstone Sunday 958, *d.* Coryton Beauty 2663 *by* Coryton General 532

3102 II. (£5.)—W. J. WESTLAKE, Godwell, Ivybridge, Devon, for **Godwell King David** 1636, born July 6, 1927; *s.* Yealmpstone Ben 3rd 938, *d.* Godwell Princess 13th 4865 *by* Lukesland Hero 342

3099 III. (£3.)—H. E. BENNETT, Ditton Court Farm, Larkfield, Kent, for **Harberton Honour** 1152, born July 6, 1925, bred by H. Tope, Drewsteignton, Devon, *s.* Harberton Honesty 518, *d.* Harberton Bo-Peep 799 *by* Netherton Gay Boy 18.

3100 R. N.—GEORGE H. EUSTICE, for **Afton Baron.**

Class 395.—*Long White Lop-Eared Boars, born in* 1929.

3106 I. (£10, & R. N. for Champion.[1])—W. H. NEAL, Walreddon Farm, Tavistock, for **Yealmpstone Gay Boy 3rd** 1992, born May 17, *s* Yealmpstone Gay Boy 2nd 1760, *d.* Yealmpstone Vanity 2nd 4885 *by* Axworthy Captain 1370.

3105 II. (£5.)—MARSHALL BROS, Paramount, Ivybridge, Devon, for **Paramount Surveyor** 1882, born Jan. 6, bred by T. C. Marshall; *s.* Devonshire Ladder 1880, *d.* Colwell Beauty 2nd 5361 *by* Yealmpstone Ben 3rd 938.

3104 III. (£3.)—HENRY J. KINGWELL, Great Aish, South Brent, Devon, for **Devonshire Leader** 2052, born Nov. 1; *s.* Devonshire Ladder 1880, *d.* Devonshire Duchess 2165 *by* Yealmpstone Pan Yan 148.

3103 R. N.—GEORGE H. EUSTICE, Bezurrell, Gwinear, Hayle, for **Bezurrell Baron.**

3106, 3120, 3127 Gold Medal.[3]—W. H. NEAL, for **Yealmpstone Gay Boy 3rd, Larcombe Butterfly 3rd** and **Yealmpstone Vanity 4th.**

Class 396.—*Long White Lop-Eared Boars, born in* 1930.

3111 I. (£10.)—CAPT. N. MILNE-HARROP, Garthgynan, Ruthin, North Wales, for **Gwersyllt Captain 10th** 2022, born Jan. 3; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 1st 4595 *by* Yealmpstone Ben 3rd 938.

3110 II. (£5.)—MARSHALL BROS., Paramount, Ivybridge, Devon, for **Paramount Superior** 2036, born Jan. 4, bred by T. C. Marshall; *s.* Devonshire Ladder 1880, *d.* Colwell Princess 4th 5359 *by* Lukesland Hero 342.

3113 III. (£3.)—CAPT. N. MILNE-HARROP, for **Gwersyllt Captain 13th** 2026, born Jan 3; *s.* Axworthy Captain 1370, *d.* Gwersllt Beauty 1st 4595 *by* Yealmpstone Ben 3rd 938.

3114 R. N.—W. J. WESTLAKE, Godwell, Ivybridge, Devon, for **Godwell Marvel.**

H. C.—3107, 3108, 3109, 3112.

3111, 3126, 3136, R. N. for Gold Medal.[3]—CAPT. N. MILNE-HARROP, for **Gwersyllt Captain 10th, Gwersyllt Beauty 8th** and **Gwersyllt Beauty 20th.**

Class 397.—*Long White Lop-Eared Breeding Sows, born in or before* 1928.

3118 I. (£10, R. N. for Champion,[2] & Champion.[4])—MARSHALL BROS., Paramount, Ivybridge, Devon, for **Colwell Princess 4th** 5359, born March 20, 1925, farrowed Jan. 4, bred by W. Down, Eggbuckland, Plymouth; *s.* Lukesland Hero 342, *d.* Colwell Princess 2nd 1191.

3121 II. (£5.)—W. J. WESTLAKE, Godwell, Ivybridge, Devon, for **Spriddlescombe Manor Princess 5th** 5249, born April 25, 1926, farrowed Feb. 20, bred by S. Harris, Spriddlescombe Manor, Modbury, Devon; *s.* Ipplepen Prince 550, *d.* Spriddlescombe Manor Princess 2001 *by* Netherton Subaltern 44.

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[1] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Boar.

[2] The "Baydon" Silver Challenge Cup given through the National Long White Lop-eared Pig Society for the best Pig.

[3] Gold Medal given by the National Long White Lop-eared Pig Society for the best Group consisting of one Boar and two Sows, two of which must be bred by Exhibitor.

[4] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Sow.

3120 **III. (£3.)**—W. H. Neal, Walreddon Farm, Tavistock, for **Larcombe Butterfly 3rd** 5725, born Jan. 20, 1928, farrowed Jan. 16, bred by Mrs. Baker, Larcombe, Blackawton; *s.* Ipplepen Don 1312, *d.* Godwell Butterfly 5th 4851 *by* Yealmpstone Ben 3rd 938.
3119 **R. N.**—Capt. N Milne-Harrop, Garthgynan, Ruthin, for **Gwersyllt Beauty 2nd.**
H. C.—3115, 3117.

Class 398.—*Long White Lop-Eared Sows, born in* 1929.[1]

3129 **I. (£10, & R. N. for Champion.[2])**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell Princess 16th** 5903, born Jan. 3; *s.* Ipplepen Don 1312, *d.* Godwell Princess 13th 4865 *by* Lukesland Hero 342.
3127 **II. (£5.)**—W. H. Neal, Walreddon Farm, Tavistock, for **Yealmpstone Vanity 4th** 6161, born May 17; *s.* Yealmpstone Gay Boy 2nd 1760, *d.* Yealmpstone Vanity 2nd 4885 *by* Axworthy Captain 1370.
3126 **III. (£3.)**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Beauty 8th** 5863, born Jan. 2; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 2nd 5333 *by* Priory Masterpiece 1084.
3123 **R. N.**—George H. Eustice, Bezurrell, Gwinear, Hayle, for **Bezurrell Millie.**
H. C.—3122, 3124, 3125, 3128.

Class 399.—*Long White Lop-Eared Sows, born in* 1930.

3136 **I. (£10.)**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Beauty 20th** 6293, born Jan. 3; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 1st 4595 *by* Yealmpstone Ben 3rd 938.
3137 **II. (£5.)**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell Duchess** 6310, born Jan. 2; *s.* Folly Merryman 1420, *d.* Godwell Primrose 4th 5639 *by* Godwell Sultan 2nd 1114.
3132 **III. (£3.)**—Marshall Bros., Paramount, Ivybridge, Devon, for **Paramount Princess 5th** 6305, born Jan. 4, bred by T. C. Marshall; *s.* Devonshire Ladder 1880, *d.* Colwell Princess 4th 5359, *by* Lukesland Hero 342.
3130 **R. N.**—George H. Eustice, Bezurrell, Gwinear, Hayle, for **Bezurrell Mona 8th.**
H. C.—3131, 3134, 3135.

FARM AND DAIRY PRODUCE OF THE UNITED KINGDOM.

Butter.

Class 400.—*Two pounds of Fresh Butter, without any salt, made up in plain pounds, from the milk of Channel Island, Devon or South Devon Cattle and their crosses.*

2 **I. (£4.)**—Mrs. G. Blackler, West Leigh, Modbury.
6 **II. (£2.)**—John Northcott, Colsloggett, Bodmin.
3 **III. (£1.)**—F. W. B. Gubbins, Swalcliffe Park, Banbury.
1 **IV. (10s.)**—His Majesty The King, Sandringham.
H. C.—5. **C.**—7.

Class 401.—*Two Pounds of Fresh Butter, without any salt, made up in plain pounds, from the milk of cattle of any breed or cross other than those mentioned in Class* 400.

13 **I. (£4.)**—Mrs. Hill, Smallwood, Sandbach.
16 **II. (£2.)**—Miss P. L. Mudd, Slade House, Thornthwaite, Darley, Harrogate.
14 **III. (£1.)**—Mrs. G. Mitchell, Mirk Booths, Dalston, Carlisle.
21 **IV. (10s.)**—Miss A. M. Ward, Foggathorpe Hall, Selby.
H. C.—15. **C.**—18.

Class 402.—*Two Pounds of Fresh Butter, slightly salted, made up in plain pounds from the milk of Channel Island, Devon or South Devon Cattle and their crosses.*

31 **I. (£4.)**—John Northcott, Colsloggett, Bodmin.
25 **II. (£2.)**—Mrs. G. Blackler, West Leigh, Modbury.
35 **III. (£1.)**—Mrs. F. Walkden, Trevorva, Probus.
33 **IV. (10s.)**—Miss F. M. Prisk, Pendeen, Three-Mile-Stone, Truro.
H. C.—26. **C.**—27.

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[1] Prizes given by the National Long White Lop-eared Pig Society.

[2] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Sow.

Class 403.—*Two Pounds of Fresh Butter, slightly salted, made up in plain pounds, from the milk of cattle of any breed or cross other than those mentioned in Class* 402.

40 I. (£4.)—Mrs. Hill, Smallwood, Sandbach.
43 II. (£2.)—Mrs. G. Mitchell, Mirk Booths, Dalston, Carlisle.
49 III. (£1.)—Miss A. M. Ward, Foggathorpe Hall, Selby.
38 IV. (10s.)—Mrs. M. Dodd, Moscow, Gilsland, Carlisle.
46 V. (5s.)—Mrs. E. B. L. Prisk, Kenwyn, Truro.
H. C.—51. C.—47.

Class 404.—*Three Pounds of Fresh Butter, slightly salted, made up in pounds in the most attractive marketable designs.*

55 I. (£4.)—Mrs. Hill, Smallwood, Sandbach.
60 II. (£2.)—Miss A. M. Ward, Foggathorpe Hall, Selby.
56 III. (£1.)—Mrs. G. Mitchell, Mirk Booths, Dalston, Carlisle.
57 IV. (10s.)—J. Pierpont Morgan, Wall Hall, Watford.
H. C.—58. C.—54.

Cheese.

Made in 1930.

Class 405.—*Two Lancashire Cheeses, not over* 12 *lb. each.*

77 I. (£5.)—Samuel Salthouse, Roseacre Farm, Roseacre, Kirkham.
67 II. (£3.)—William Duckworth, Ribby Hall Dairy, Kirkham.
78 III. (£2.)—Thomas Sanderson, Manor House, Treales, Kirkham.
75 IV. (10s.)—Frank J. Raby, Andlesteads Farm, Chipping, Preston.
71 V. (5s.)—William Metcalf, Bolton Fold Farm, Alston, Preston.

Class 406.—*Two Lancashire Cheeses, not less than* 35 *lb. each, made on a farm exceeding* 100 *acres in extent.*

96 I. (£8.)—Robert Singleton, Crombleholme Fold, Goosnargh, Preston.
87 II. (£4.)—William Duckworth, Ribby Hall Dairy, Kirkham.
93 III. (£3.)—Samuel Salthouse, Roseacre Farm, Roseacre, Kirkham.
92 IV. (£2.)—Richard Rawcliffe, Staining Hall, Staining, Blackpool.
86 V. (5s.)—James Cowpe, Fir Trees Farm, Goosnargh Preston.
98 R. N.—Henry Whittingham, Wildboar Farm, St. Michaels, Garstang.

Class 407.—*Two Lancashire Cheeses, not less than* 35 *lb. each, made on a farm not exceeding* 100 *acres, but over* 50 *acres in extent.*

102 I. (£8.)—James Lawrenson, Sharples Hall Farm, Winmarleigh, Preston.
108 II. (£4.)—Thomas Sanderson, Manor House, Treales, Kirkham.
111 III. (£3.)—Thomas Whittingham, Old Holly Farm, Cambus, Garstang.
101 IV. (£2.)—Mrs. T. Exton, Hoole Farm, Nateby, Garstang.
105 V. (5s.)—William Metcalf, Bolton Fold Farm, Alston, Preston.
109 R. N.—Joseph Shepherd, Bell Farm, Pilling, Garstang.
H. C.—104, 107, 110. C.—112.

Class 408.—*Two Lancashire Cheeses, not more than* 35 *lb. each, made on a farm* 50 *acres or under in extent.*

119 I. (£8.)—John Fisher, Thorn Platt, Alston, Grimsargh, Preston.
113 II. (£4.)—William Bailey, Whitehead Farm, Goosnargh, Preston.
127 III. (£3.)—John Walmsley, Hole House, Claughton, Garstang.
120 IV. (£2.)—Richard Hall, Hodgkinson House, Great Eccleston.
118 V. (5s.)—John Eddleston, Boughfield Farm, Balderstone, Blackburn.
122 R. N.—John Jenkinson, Fold Farm, Pilling, Garstang.
H. C.—116.

Class 409.—*Two Cheshire Cheeses, coloured, not over* 40 *lb. each.*

128 I. (£8.)—Arthur Barnett, Rose Farm, Worleston, Nantwich.
139 II. (£4.)—W. R. Lea, Lacon Hall, Wem, Shrewsbury.
130 III. (£3.)—W. E. Blake, Cross Lanes, Bickley, Malpas.
137 IV. (£2.)—W. H. Hobson, Woodhey Hall, Nantwich.
131 V. (5s.)—Miss Mabel Bourne, Baddington, Nantwich.
132 R. N.—E. A. Cookson, Minshull Hall, Middlewich.
H. C.—134, 138, 150. C.—129, 148.

Class 410.—*Two Cheshire Cheeses, coloured, over* 40 *lb. each.*

170 I. (£8.)—W. H. Moore, Baddiley Farm, Nantwich.
175 II. (£4.)—R. Walker, Hatton Hall, Hatton Heath, Chester.

179 III. (£3.)—W. S. Wright, The Blackhurst, Baddiley, Nantwich.
162 IV. (£2.)—The Exors. of C. F. Hobson, Weston Hall, Standon, Eccleshall, Stafford.
177 V. (5s.)—P. H. Walley, Towns Green, Wettenhall, Winsford.
159 R. N.—W. J. Hall, Park Hall, Minshull Vernon, Middlewich.
H. C.—156, 158, 176. C.—151, 172, 181.

Class 411.—*Two Cheshire Cheeses, uncoloured, not over 40 lb. each.*

186 I. (£8.)—F. W. Hesketh, Cholmondeston, Nantwich.
191 II. (£4.)—W. R. Lea, Lacon Hall, Wem, Shrewsbury.
189 III. (£3.)—W. H. Hobson, Woodhey Hall, Nantwich.
193 IV. (£2.)—W. E. Moore, Baddiley Farm, Nantwich.
200 V. (5s.)—H. S. & W. G. Whittaker, Wardle Bridge Farm, Nantwich.
184 R. N.—W. E. Blake, Cross Lanes, Bickley, Malpas.
H. C.—190, 201. C.—182, 198.

Class 412.—*Two Cheshire Cheeses, uncoloured, over 40 lb. each.*

216 I. (£8.)—W. E. Moore, Baddiley Farm, Nantwich.
212 II. (£4.)—W. H. Hobson, Woodhey Hall, Nantwich.
225 III. (£3.)—H. S. & W. G. Whittaker, Wardle Bridge Farm, Nantwich.
213 IV. (£2.)—Fred Huntbach, Moor Hall, Aston, Nantwich.
210 V. (5s.)—The Exors. of C. F. Hobson, Weston Hall, Standon, Eccleshall, Stafford.
224 R. N.—P. H. Walley, Towns Green, Wettenhall, Winsford.
H. C.—214, 223, 227. C.—205, 215.

Class 413.—*Two Cheshire Cheeses, irrespective of weight or colour, made, owned and exhibited by any Farmer whose occupation exceeds* 150 *acres and whose land is hunted over by the Cheshire Hounds.*[1]

230 I. (£8, & Champion.[2])—Thomas E. Beckett, Hall-o-Coole, Nantwich.
242 II. (£5, & R. N. for Champion.[2])—W. E. Moore, Baddiley Farm, Nantwich.
247 III. (£3.)—W. S. Wright, The Blackhurst, Baddiley, Nantwich.
238 IV. (£2.)—Mrs. J. Hobson, Old Hall, Coole Pilate, Nantwich.
235 V. (5s.)—Thomas Darlington, Marshfield Bank Farm, Woolstanwood, Crewe.
245 R. N.—P. H. Walley, Towns Green, Wettenhall, Winsford.
H. C.—240. C.—234.

Class 414.—*Two Cheshire Cheeses, irrespective of weight or colour, made, owned and exhibited by any Farmer whose occupation does not exceed* 150 *acres and whose land is hunted over by the Cheshire Hounds.*[1]

256 I. (£8.)—A. E. Walley, Bickerton Hall, Malpas.
255 II. (£5.)—Frank Walker, Russia Hall, Tattenhall, Chester.
253 III. (£3.)—Mrs. Mary Lunt, Church Farm, Christleton, Chester.
257 IV. (£2.)—Thomas W. Young, Sicilly Oak Farm, Cholmondeley, Malpas.
250 R. N.—W. J. Hall, Park Hall, Minshull Vernon, Middlewich.
H. C.—251.

Class 415.—*Two Cheddar Cheeses, not less than* 50 *lb. each.*

260 I. (£5.)—J. Borland, Junr., Hillowton Dairy, Castle Douglas.
266 II. (£3.)—William McGibney, Whiteleys, Stranraer.
273 III. (£2.)—Sidney T. White, Sock Dennis Farm, Ilchester.
265 IV. (10s.)—George McDowall, South Boreland, Dunragit.
262 V. (5s.)—Mrs. W. Haine, Rectory Farm, Slimbridge, Gloucester.
259 R. N.—J. Borland, Slagnaw Dairy, Castle Douglas.
H. C.—267. C.—268.

Class 416.—*Two Cheddar Truckles.*

295 I. (£5.)—Sidney T. White, Sock Dennis Farm, Ilchester.
286 II. (£3.)—George McDowall, South Boreland, Dunragit.
281 III. (£2.)—W. J. Emery, Swallowpitts Farm, Exborough, Bath.
284 IV. (10s.)—Mrs. William Harris, Glenusk, Nantyderry, Abergavenny.
288 V. (5s.)—Samuel McMinn, Torrs Dairy, Kirkcudbright.
283 R. N.—Mrs. W. Haine, Rectory Farm, Slimbridge, Gloucester.
H. C.—276. C.—282.

Class 417.—*Two Stilton Cheeses.*

297 I. (£5.)—Emberlin & Co., Ltd., The Dairy, Wymeswold, Loughborough.
305 II. (£3.)—Misses M. F. & J. Webster, Saxelbye, Melton Mowbray.
306 III. (£2.)—Webster & Richardson, Hickling, Kinoulton, Nottingham.

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[1] Prizes, except Fifth, given by Members of the Cheshire Hunt.

[2] Champion Silver Cup given by Members of the Cheshire Hunt for the best exhibit in Classes 413 and 414.

299 IV. (10s.)—Long Clawson Dairy, Ltd., Long Clawson, Melton Mowbray.
298 R. N.—Emberlin & Co., Ltd., The Dairy, Old Dalby, Melton Mowbray.

Class 418.—*Two Wensleydale Cheeses, Stilton shape.*

310 I. (£5.)—Alfred Rowntree & Son, The Dairy, Coverham, Middleham.
309 II. (£3.)—J. M. Nuttall & Co., Ltd., Dove Dairy, Hartington, Buxton.
307 III. (£2.)—Misses A. & J. Hammond, West Lane House, Bishopdale, Leyburn.

Class 419.—*Two Caerphilly Cheeses.*

321 I. (£5.)—Miss Mary Leyshon, Ruthin Farm, Pencoed, Bridgend.
316 II. (£3.)—Mrs. William Harris, Glenusk, Nantyderry, Abergavenny.
318 III. (£2.)—Mrs. S. John Ruthin Farm, Pencoed, Bridgend.
322 IV. (10s.)—Thomas Wilkins, Putnell Farm, Cannington, Bridgwater.
319 R. N.—Jenkin Jones, Cwm, Crickhowell.
H. C.—317. C.—315.

Class 420.—*Two Small Cheeses, not exceeding* 6 *lb. each, of Cheddar or Cheshire character.*

331 I. (£4.)—Mrs. William Harris, Glanusk, Nantyderry, Abergavenny.
339 II. (£2.)—Frank Portch, Leigh Farm, Wincanton.
324 III. (£1.)—Thomas E. Beckett, Hall-o-Coole, Nantwich.
344 IV. (10s.)—Sidney T. White, Sock Dennis Farm, Ilchester.
330 V. (5s.)—Mrs. J. T. Garbutt, Street Farm, Loftus-in-Cleveland.
337 R. N.—W. E. Moore, Baddiley Farm, Nantwich.
H. C.—335. C.—332.

Class 421.—*Two Small Cheeses, not exceeding* 6 *lb. each, of Stilton or Wensleydale character.*

351 I. (£4.)—J. M. Nuttall & Co., Ltd., Dove Dairy, Hartington, Buxton.
355 II. (£2.)—Webster & Richardson, Hickling Lodge, Kinoulton, Nottingham.
354 III. (£1.)—Misses M. F. & J. Webster, Saxelbye, Melton Mowbray.
353 IV. (10s.)—F. Webster & Co., Shoby Priory, Melton Mowbray.
352 R. N.—Alfred Rowntree & Son, The Dairy, Coverham, Middleham.

Class 422.—*Two Soft Cheeses, made from whole milk.*

362 I. (£4.)—Mrs. J. W. Pantall, The Fox House, Hampton Bishop, Hereford.
360 II. (£2.)—Jenkin Jones, Cwm, Crickhowell.
358 III. (£1.)—Miss Elsie G. Cook, Cold Harbour, Stadhampton, Oxford.
H. C.—361. C.—357.

Class 423.—*Two Cheeses made from cream without the addition of rennet.*

373 I. (£4.)—Miss Betty Williams, Conyngham Hall Dairy, Knaresborough.
365 II. (£2.)—His Majesty The King, Sandringham.
375 III. (£1.)—The Marquess of Zetland, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks.
369 IV. (10s.)—Miss B. J. Mudd, Aldborough Dairy, Boroughbridge.
H. C.—374.

Cider.

Class 424.—*Six Bottles of Dry Cider made in* 1929.

391 I. (£3.)—Wickwar Cider Co., Ltd., Wickwar, Glos.
377 II. (£2), & 376 III. (£1.)—Sir Ian Amory, Bart., Knightshayes Court, Tiverton.
389 R. N.—Schweppes, Ltd., 50 Queen Charlotte Street, Bristol.
C.—385.

Class 425.—*Six Bottles of Sweet Cider, made in* 1929.

393 I. (£3), & 394 II. (£2.)—Sir Ian Amory, Bart., Knightshayes Court, Tiverton.
413 III. (£1), & 414. R. N.—Ridler & Son, Clehonger, Hereford.

Class 426.—*Six Bottles of Cider, made previous to* 1929.

434 I. (£3.)—Wickwar Cider Co., Ltd., Wickwar, Glos.
428 II. (£2.)—Ridler & Son, Clehonger, Hereford.
433 III. (£1.)—Severn Vale Cider Co., Ltd., Bushley, Tewkesbury.
424 R. N.—Sir Ian Amory, Bart., Knightshayes Court, Tiverton.
H. C.—429. C.—423.

Wool.[1]

Of 1930 *clip.*

First Prize, £3 ; Second Prize, £2 ; Third Prize, £1, in each Class.

Class 427.—*Three Fleeces of Oxford Down Wool.*

436 I. & 435 II.—H. W. Stilgoe, The Grounds, Adderbury, Banbury.

Class 428.—*Three Fleeces of Shropshire Wool.*

442 I.—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
439 II.—John Minton, Dryton, Wroxeter, Shrewsbury.
440 III.—N. J. Nunnerley, Tern Hill House, Market Drayton.

Class 429.—*Three Fleeces of Southdown Wool.*

443 I.—His Majesty The King, Sandringham.
448 II.—J. K. Williamson, Derwen Hall, Corwen.
447 III.—J. Pierpont Morgan, Wall Hall, Watford.

Class 430.—*Three Fleeces of Hampshire Down Wool.*

452 I. & 451 II.—William Todd, Little Ponton Grange, Grantham.
449 III.—Major and Mrs. Jervoise, Herriard Park, Basingstoke.

Class 431.—*Three Fleeces of Suffolk Wool.*

453 I. & 454 II.—Maj.-Gen. Lord Treowen, C.B., C.M.G., Llanover, Abergavenny.

Class 432.—*Three Fleeces of Dorset Down Wool.*

457 I. & 456 III.—Leonard Tory, Turnworth, Blandford.
455 II.—The Earl of Elgin, C.M.G., Broomhall, Dunfermline.

Class 433.—*Three Fleeces of Dorset Horn Wool.*

460 I., & R. N. for Champion,[2] & 459 II.—Alfred Read, Lower Farm, Hilton, Blandford.
458 III.—The Earl of Elgin, C.M.G., Broomhall, Dunfermline.

Class 434.—*Three Fleeces of Ryeland Wool.*

462 I. & 461 II.—David J. Thomas, Monachty, Abergavenny.

Class 435.—*Three Fleeces of Kerry Hill (Wales) Wool.*

466 I. & Champion,[2] & 467 II.—The Marquess of Londonderry, K.G., M.V.O., Plas, Machynlleth, Mont.
463 III.—Ben Alderson, Glanmiheli, Kerry, Mont.

Class 436.—*Three Fleeces of Lincoln Wool.*

471 I. & 472 II.—Major W. H. Rawnsley, Well Vale, Alford, Lincs.
469 III.—J. W. Lett, Scragglethorpe Manor, Malton.

Class 437.—*Three Fleeces of Border Leicester Wool.*

(No Entry.)

Class 438.—*Three Fleeces of Wensleydale Wool.*

479 I.—W. H. O. Pick, Wood Hill Grange, Thirsk.
478 II.—J. W. Greensit, Holme-on-Swale, Thirsk.
481 III.—John A. Willis, Manor House, Carperby, Yorks.

Class 439.—*Three Fleeces of Kent or Romney Marsh Wool, from Rams of any age.*

486 I.—J. Egerton Quested, The Firs, Cheriton, Kent.
483 II.—L. H. & G. W. Finn, The Mall, Faversham.
485 III.—Clifford Nicholson, Worlaby House, Brigg.

Class 440.—*Three Fleeces of Kent or Romney Marsh Wool, from Ewe Tegs.*

491 I. & Champion.[3]—J. Egerton Quested, The Firs, Cheriton, Kent.
489 II.—The Earl of Guilford, Waldershare Park, Dover.
488 III.—L. H. & G. W. Finn, The Mall, Faversham.

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[1] The Second and Third Prizes in these Classes were given by the respective Flock Book Societies.

[2] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any short-woolled breed of sheep.

[3] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any long-woolled breed of sheep.

Class 441.—*Three Fleeces of Kent or Romney Marsh Wool, excluding Rams or Ewe Tegs.*

493 I. & R. N. for Champion,[1] 492 II. & 494 III.—L. H. & G. W. FINN, The Mall, Faversham

Class 442.—*Three Fleeces of Welsh Mountain Wool.*

500 I.—J. K. WILLIAMSON, Derwen Hall, Corwen.
499 II.—R. ROBERTS & SON, Arllen Fawr, Llanrhaiadr, Oswestry.
498 III.—SIMEON JONES, Efailwag, Llanrhaiadr, Oswestry.

Class 443.—*Three Fleeces of Black Welsh Mountain Wool.*

504 I.—MAJOR F. H. T. JERVOISE, Herriard Park, Basingstoke.
505 II.—MAJOR-GEN. LORD TREOWEN, C.B., C.M.G., Llanover, Abergavenny.
502 III.—MISS J. V. HORN, Woodcote Park, Blackshiels, Midlothian.

POULTRY.

By "Cock," "Hen," and "Gander," "Goose," are meant birds hatched previous to January 1, 1930; and by "Cockerel" and "Pullet" are meant birds hatched in 1930.

The Prizes in each Class are as follows: **First Prize, 40s. Second Prize, 30s. Third Prize, 20s. Fourth Prize, 10s. Fifth Prize, 5s.**

Special Prizes were given in the Poultry Classes by the following Clubs: Dorking, Sussex, Columbian Wyandotte, Buff Orpington, British Black Barnevelder, British Barnevelder, Campine and Magpie Duck.

Class 444.—*Dorking Cocks.*

2 I.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead.
1 II. & 3 III.—A. J. MAJOR, Ditton, Langley, Bucks.

Class 445.—*Dorking Hens.*

5 I. & Special.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead
6 II. & 4 III.—A. J. MAJOR, Ditton, Langley, Bucks.

Class 446.—*Dorking Cockerels.*

10 I. & R. N. for Special.—W. G. W. WATSON, Rusper Road, Horsham.
9 II. & 7 III.—A. J. MAJOR, Ditton, Langley, Bucks.

Class 447.—*Dorking Pullets.*

11 I. & 13 R. N.—A. J. MAJOR, Ditton, Langley, Bucks.
14 II.—W. G. W. WATSON, Rusper Road, Horsham.
12 III.—MRS. E. MILLS, Woodford Hall, Milton Damerel, Devon.

Class 448.—*Croad Langshan Cocks or Cockerels.*

17 I.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead.
19 II.—MRS. E. MILLS, Woodford Hall, Milton Damerel, Devon.
18 III.—JOE FARNSWORTH, Mount Pleasant Poultry Farm, Bleasby, Nottingham.
16 R. N.—MISS EVERETT, Ollera, Totton, Hants.
H. C.—20. C.—21.

Class 449.—*Croad Langshan Hens or Pullets.*

23 I. & 26 II.—MRS. E. MILLS, Woodford Hall, Milton Damerel, Devon.
25 III.—LT.-COL. G. R. B. PATTEN, Brockhurst, The Mount, Shrewsbury.
H. C.—27.

Class 450.—*Brahma or Cochin Cocks or Cockerels.*

29 I.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead.
28 II.—COL. R. S. WILLIAMSON, The Grange, Rawnsley, Stafford.
33 III.—H. MARTIN WRIGHT, The Poplars, Great Shelford, Cambs.
31 R. N.—R. M. THOMAS, 1, Glasfryn, Cockett Road, Sketty, Swansea.
H. C.—30.

Class 451.—*Brahma or Cochin Hens or Pullets.*

36 I.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead.
34 II.—R. ANTHONY, Euxton, Chorley, Lancs.
35 III.—COL. R. S. WILLIAMSON, The Grange, Rawnsley, Stafford.
H. C.—38.

Class 452.—*Red Sussex Cocks.*

39 I. & Special, & 43 II.—J. DUMBLETON, Sheen Croft Farm, Didcot, Berks.
41 III.—JOHN A. DEWAR, Homestall Poultry Farm, East Grinstead.
40 R. N.—CHARLES HARDY, Argos Hill, Rotherfield, Sussex.

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[1] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any long-woolled breed of sheep.

Class 453.—*Red Sussex Hens.*

53 I. & 49 II.—J. Dumbleton, Sheen Croft Farm, Didcot, Berks.
48 III.—Charles Hardy, Argos Hill, Rotherfield, Sussex.
50 R. N.—Major W. H. Mullens, Beauport Park, Battle, Sussex.

Class 454.—*Red Sussex Cockerels.*

55 I., 59 II., & 57 R. N.—J. Dumbleton, Sheen Croft Farm, Didcot, Berks
58 III.—Major W. H. Mullens, Beauport Park, Battle, Sussex.

Class 455.—*Red Sussex Pullets.*

61 I. & R. N. for Special, 63 II. & 65 III.—J. Dumbleton, Sheen Croft Farm, Didcot, Berks.
60 R. N.—Major W. H. Mullens, Beauport Park, Battle, Sussex.

Class 456.—*Light Sussex Cocks.*

69 I., Special, & Cup,[1] & 72 II.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring
70 III.—Miss M. V. Larkworthy, Cooper's Bridge, Bramshott, Liphook.
66 IV.—Miss W. B. Young, 1 Oxford Street, Woodstock.
74 R. N.—R. Anthony, Euxton, Chorley, Lancs.
H. C.—68. C.—67.

Class 457.—*Light Sussex Hens.*

82 I., R. N. for Special, & R. N. for Cup.[1]—John A. Dewar, Homestall Poultry Farm, East Grinstead.
75 II. & 83 R. N.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
85 III.—R. Anthony, Euxton, Chorley, Lancs.
79 IV.—W. H. Brady, Glan-y-Coed, Penmaenmawr.
H. C.—84. C.—80

Class 458.—*Light Sussex Cockerels.*

89 I. & 96 IV.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
91 II.—Miss M. V. Larkworthy, Cooper's Bridge, Bramshott, Liphook.
97 III.—John Barton, Burtree House, Hutton Sessay, Thirsk.
94 V. & 86 R. N.—W. H. Brady, Glan-y-Coed, Penmaenmawr.

Class 459.—*Light Sussex Pullets.*

111 I. & 102 V.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
109 II.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
105 III. & 112 IV.—Henry Underwood, Mowshurst Poultry Farm, Eden Bridge.
108 R. N.—W. Gooderidge, Wormald Green, Harrogate.

Class 460.—*Speckled Sussex Cocks.*

115 I. & R. N. for Special.—Sir Gomer Berry, Bart., Pendley Stock Farms Tring.
116 II.—Capt. T. M. Whittaker, Pen-y-bryn, Portmadoc.
118 III.—James H. Smith, Peets Farm, Southport.
114 R. N.—A. W. H. Loveless, Priors, Keston, Kent.

Class 461.—*Speckled Sussex Hens.*

121 I. & Special.—The Hon. Mrs. Ronald Greville, D.B.E., Polesden Lacey, Dorking.
122 II.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
125 III.—James H. Smith, Peets Farm, Southport.
120 R. N.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
H. C.—119. C.—124.

Class 462.—*Speckled Sussex Cockerels.*

126 I. & 129 II.—Capt. T. M. Whittaker, Pen-y-bryn, Portmadoc.
128 III.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
127 R. N.—Major W. H. Mullens, Beauport Park, Battle.

Class 463.—*Speckled Sussex Pullets.*

132 I., 134 II. & 136 III.—Capt. T. M. Whittaker, Pen-y-bryn, Portmadoc.
135 R. N.—Major W. H. Mullens, Beauport Park, Battle.

Class 464.—*Brown Sussex Cocks.*

142 I. & Special, 141 II. & 139 III.—Charles Hardy, Argos Hill, Rotherfield.

Class 465.—*Brown Sussex Hens.*

143 I. & R. N. for Special, 145 II. & 146 III.—Charles Hardy, Argos Hill, Rotherfield.

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[1] The Crawshay Memorial Cup given through the Sussex Poultry Club for the best Light Sussex.

Class 466.—*Brown Sussex Cockerels.*

149 I. & 148 II.—Charles Hardy, Argos Hill, Rotherfield.
147 III.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes

Class 467.—*Brown Sussex Pullets.*

151 I.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
150 II. & 152 III.—Charles Hardy, Argos Hill, Rotherfield.

Class 468.—*Buff Sussex Cocks or Cockerels.*

154 I. & Special.—Arthur Howard, Chantecler Poultry Farm, Maidenhead
159 II.—The Hon. Mrs. Ronald Greville, D.B.E., Polesden Lacey, Dorking.
153 III.—Mrs. J. G. Elsey, West Ashby Manor, Horncastle.
157 R. N.—F. W. Fitz, 3 Boreham, Warminster.

Class 469.—*Buff Sussex Hens or Pullets.*

162 I. & R. N. for Special.—The Hon. Mrs. Ronald Greville, Polesden Lacey, Dorking
160 II.—Arthur Cooke, Creamhaven, 25 Halmergate, Spalding.
161 III.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.

Class 470.—*White Sussex Cocks or Cockerels.*

164 I. & R. N. for Special.—John A. Dewar, Homestall Poultry Farm, East Grinstead
166 II. & 163 R. N.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
167 III.—Austen Walker, Croxton Abbey, Croxton Park, Grantham.

Class 471.—*White Sussex Hens or Pullets.*

168 I. & Special, & 171 II.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
169 III.—Austen Walker, Croxton Abbey, Croxton Park, Grantham.

Class 472.—*White Wyandotte Cocks.*

175 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
173 II.—R. Anthony, Euxton, Chorley, Lancs.
172 III.—Miss M. V. Larkworthy, Cooper's Bridge, Bramshott, Liphook
176 R. N.—E. Wells, 4 High Street, Biddulph, Stoke-on-Trent.
H. C.—174.

Class 473.—*White Wyandotte Hens.*

179 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
178 II.—R. Anthony, Euxton, Chorley, Lancs.
177 III.—T. P. Burwell, Orchards, Milton Bryan, Bletchley.
H. C.—181.

Class 474.—*White Wyandotte Cockerels.*

187 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
183 II.—R. Anthony, Euxton, Chorley, Lancs.
186 III.—T. P. Burwell, Orchards, Milton Bryan, Bletchley.
184 R. N.—William Walton, Longacre, Chapel-en-le-Frith.
H. C.—185.

Class 475.—*White Wyandotte Pullets.*

192 I.—R. Anthony, Euxton, Chorley, Lancs.
190 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
188 III.—William Walton, Longacre, Chapel-en-le-Frith.
191 R. N.—T. P. Burwell, Orchards, Milton Bryan, Bletchley.
H. C.—189.

Class 476.—*Gold or Silver Laced Wyandotte Cocks or Cockerels.*

199 I.—James H. Smith, Peets Farm, Southport.
194 II.—R. Anthony, Euxton, Chorley, Lancs.
198 III.—William Richardson, 40 Bootham Crescent, York.
200 R. N.—John Procter, Goosnargh Mill, Preston.
H. C.—195.

Class 477.—*Gold or Silver Laced Wyandotte Hens or Pullets.*

206 I.—John Procter, Goosnargh Mill, Preston.
210 II.—R. Anthony, Euxton, Chorley, Lancs.
204 III. & 208 IV.—John Dooley, Brooklands, Whitemoor, Congleton.
207 R. N.—James H. Smith, Peets Farm, Southport.
H. C.—201.

Class 478.—*Columbian Wyandotte Cocks.*

211 I. & Cup.[1]—Fred Brown, Woodside, Grimscar, Huddersfield.
215 II.—Henry J. Sayer, Carshalton, Berengrave Lane, Rainham.
212 III.—R. Matterface, 121 South Street, Bridport.
H. C.—214.

Class 479.—*Columbian Wyandotte Hens.*

221 I. & Spoon.[1]—S. T. Read, 40 China Street, Bulwell, Nottingham.
217 II. & 220 III.—Fred Brown, Woodside, Grimscar, Huddersfield.
216 R. N.—G. A. Wilson, Beckside Farm, Troutbeck, Windermere.
H. C.—219.

Class 480.—*Columbian Wyandotte Cockerels.*

222 I. & R. N. for Medal.[2]—Fred Brown, Woodside, Grimscar, Huddersfield.
223 II.—John F. Cooks, Ware Park Poultry Farm, Ware.
225 III.—G. A. Wilson, Beckside Farm, Troutbeck, Windermere.
H. C.—224.

Class 481.—*Columbian Wyandotte Pullets.*

228 I. & Medal,[2] & 234 III.—Fred Brown, Woodside, Grimscar, Huddersfield.
235 II.—S. T. Read, 40 China Street, Bulwell, Nottingham.
232 IV.—John F. Cooks, Ware Park Poultry Farm, Ware.
231 R. N.—R. Matterface, 121 South Street, Bridport.
H. C.—229.

Class 482.—*Wyandotte Cocks or Cockerels, any other colour.*

239 I.—Arthur Ellett, Waterfall Poultry Farm, Southgate.
243 II. & 237 R. N.—R. P. Percival, Shuttington House, Tamworth.
242 III.—Robert Bell, Wetheral, Carlisle.
H. C.—240.

Class 483.—*Wyandotte Hens or Pullets, any other colour.*

244 I.—J. A. Boardley, Slyne Road, Lancaster.
245 II.—Walter Foulds, Clydesdale, Kirby Muxloe, Leicester.
246 III.—Mrs. M. Mugeli, Marsden House, High Lane, Stockport.

Class 484.—*Buff Orpington Cocks.*

248 I. & Special.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
251 II.—R. Anthony, Euxton, Chorley, Lancs.
249 III.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.
253 R. N.—Bernard Brooks, The Homestead, Lower Peover, Knutsford.
C.—250.

Class 485.—*Buff Orpington Hens.*

255 I.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.
259 II.—E. Wells, 4 High Street, Biddulph, Stoke-on-Trent.
256 III.—R. Anthony, Euxton, Chorley, Lancs.

Class 486.—*Black Orpington Cocks.*

262 I.—J. H. Baker & Son, Windyash, Barnstaple.
261 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
271 III.—Miss N. Shanks, Stetchworth, Newmarket.
266 IV.—Robert Mostyn, Spring Bank, Llewelyn Road, Colwyn Bay.
265 V.—Hawley Bros., Central Houses, Wormhill, Buxton.
263 R. N.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.
H. C.—260, 270.

Class 487.—*Black Orpington Hens.*

273 I.—J. H. Baker & Son, Windyash, Barnstaple.
281 II.—John Burdett, 1 Lake Bank Terrace, Wingate.
274 III.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.
279 IV.—Fred Swindells, Diglake Farm, Buglawton, Cheshire.
276 R. N.—Robert Mostyn, Spring Bank, Llewelyn Road, Colwyn Bay.
H. C.—275. C.—272.

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[1] The "Goddard" Visiting Cup given by the Columbian Wyandotte Club for the best Columbian Wyandotte, and a Silver Spoon for the best Columbian Wyandotte of opposite sex.

[2] Commemoration Medal given by the Columbian Wyandotte Club for the best Columbian Wyandotte hatched in 1930.

Class 488.—*Orpington Cocks, any other colour.*

284 I.—J. D. Kay, Stetchworth, Newmarket.
282 II.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.

Class 489.—*Orpington Hens, any other colour.*

285 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
288 II.—R. Anthony, Euxton, Chorley, Lancs.
286 III.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.

Class 490.—*Orpington Cockerels, any colour.*

290 I.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.

Class 491.—*Orpington Pullets, any colour.*

293 I.—John Burdett, 1 Lake Bank Terrace, Wingate.
294 II.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington.
295 III.—Miss N. Shanks, Stetchworth, Newmarket.

Class 492.—*Australorp Cocks or Cockerels.*

302 I.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on-Thames.
303 II. & 299 III.—Mrs. Mugeli, Marsden House, High Lane, Stockport.
301 R. N.—John Rutter, Rode St. House, Tarporley.
H. C.—300. C.—298.

Class 493.—*Australorp Hens or Pullets.*

312 I.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on-Thames.
308 II.—Roy N. Corner, Wellington Poultry Farm, near Hereford.
306 III.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
304 IV.—G. Clapham, Bowbrook, Shrewsbury.
313 R. N.—Mrs. M. Mugeli, Marsden House, High Lane, Stockport.
H. C.—311.

Class 494.—*Black Barnevelder Cocks or Cockerels.*

319 I. & Special.—John E. Cowall, Bestwood Cottage, Silkstone Common, Barnsley.
315 II. & R. N. for Special.—Walter C. Payne, The Chalet, Weston, Stevenage.
314 III.—Tom Clough, The Poultry Farm, Gawsworth, Macclesfield.
316 R. N.—T. Graham, Dufton, Appleby.

Class 495.—*Black Barnevelder Hens or Pullets.*

326 I. & Special.—W. H. Dutton, The Villa, Hatherton, Nantwich.
322 II. & R. N. for Special.—Tom Clough, The Poultry Farm, Gawsworth, Macclesfield
324 III.—Edwin Robson, Sutton House, Sutton, Hull.
325 R. N.—T. Graham, Dufton, Appleby.
H. C.—327. C.—320.

Class 496.—*Barnevelder Cocks or Cockerels, any other colour.*

328 I. & Special.—Lady Bromley Wilson, Nabwood, Windermere.
333 II. & R. N. for Special.—Norman M. Grant, Mill Lane Poultry Farm, Green World, Copthorne.
329 III.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
332 R. N.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
H.—330. C.—334.

Class 497.—*Barnevelder Hens or Pullets, any other colour.*

338 I. & Special, & 342 R. N.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
344 II. & R. N. for Special.—Norman M. Grant, Mill Lane Poultry Farm, Green World, Copthorne.
349 III.—Arthur Whitton, Aiskew, Bedale.
H. C.—340. C.—350.

Class 498.—*British Rhode Island Red Cocks.*

359 I.—Frank H. Page, Woodlands, Great Horkesley, Colchester.
362 II.—James H. Smith, Peets Farm, Southport.
353 III.—Capt. A. T. Hingston, Dunsford, Exeter.
360 IV.—J. H. Baker & Son, Windyash, Barnstaple.
354 V.—G. H. Muzzlewhite, Redlands, Tavistock.
352 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
H. C.—356, 363. C.—351.

Class 499.—*British Rhode Island Red Hens.*

370 I.—G. H. Muzzlewhite, Redlands, Tavistock.
366 II.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.

371 III.—Frank H. Page, Woodlands, Great Horkesley, Colchester.
372 IV.—J. H. Baker & Son, Windyash, Barnstaple.
364 R. N.—Edwin Robson, Sutton House, Sutton, Hull.
H. C.—368. C.—374.

Class 500.—*British Rhode Island Red Cockerels.*

382 I. & 376 II.—W. R. Abbey, Croft Farm, Hessay, York.
381 III.—Frank H. Page, Woodlands, Great Horkesley, Colchester.
380 IV.—G. H. Muzzlewhite, Redlands, Tavistock.
377 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
H. C.—379. C.—378.

Class 501.—*British Rhode Island Red Pullets.*

397 I.—Frank H. Page, Woodlands, Great Horkesley, Colchester.
386 II. & 391 IV.—W. R. Abbey, Croft Farm, Hessay, York.
389 III.—G. H. Muzzlewhite, Redlands, Tavistock.
390 V.—A. T. Taylor, 80 Musters Road, West Bridgford, Nottingham.
387 R. N.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
H. C.—388, 393. C.—395.

Class 502.—*Barred Plymouth Rock Cocks.*

399 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
404 II.—R. Anthony, Euxton, Chorley, Lancs.
401 III.—R. Garlick, Kirkby Lonsdale.
405 IV.—R. Cape, Black Lake Poultry Farm, Egham.
403 R. N.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby.
H. C.—406. C.—400.

Class 503.—*Barred Plymouth Rock Hens.*

409 I. & 412 II.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
410 III.—Mrs. W. G. Jacka, Ninnis, Germoe, Marazion.
408 R. N.—James H. Smith, Peets Farm, Southport.

Class 504.—*Barred Plymouth Rock Cockerels.*

419 I.—R. Garlick, Kirkby Lonsdale.
413 II.—E. Marshall, Hollyhurst, Gregory Street, Lenton, Nottingham.
421 III.—R. Cape, Black Lake Poultry Farm, Egham.
416 IV.—T. H. Nelson, Queen's Square, Kirkby Lonsdale.
420 R. N.—George Woodiwiss, Lindeth Lodge, Silverdale, Carnforth.

Class 505.—*Barred Plymouth Rock Pullets.*

425 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
424 II.—Richard Major, Kirkby Lonsdale.
430 III.—George Woodiwiss, Lindeth Lodge, Silverdale, Carnforth.
428 IV.—R. Cape, Black Lake Poultry Farm, Egham.
429 R. N.—Lt.-Col. the Rt. Hon. Spender Clay, M.P., Ford Manor, Lingfield.
H. C.—423.

Class 506.—*Buff Plymouth Rock Cocks or Cockerels.*

437 I.—Alfred Dodd, The Grove Poultry Farm, Shavington, Crewe.
433 II.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
436 III.—Bilsborough & Bland, Park Lane Poultry Farm, Forton, Garstang.
431 IV. & 439 R. N.—William Rhead, Merlewood, Beggars Lane, Leek.
438 V.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby.

Class 507.—*Buff Plymouth Rock Hens or Pullets.*

450 I.—R. Cape, Black Lake Poultry Farm, Egham.
446 II.—Thomas Atkinson, Croft Poultry Farm, Burton-in-Lonsdale, Carnforth.
444 III.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
447 IV.—Bilsborough & Bland, Park Lane Poultry Farm, Forton, Garstang.
453 R. N.—Andrew Southerin, 88 Burnley Road, Padiham, Burnley.
H. C.—452.

Class 508.—*Plymouth Rock Cocks or Cockerels, any other colour.*

455 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
454 II.—W. D. Hesketh, Highfield, Lostock Gralam, Northwich.
456 III.—James A. Brandwood, Pleasant View, Edgworth, Bolton.
457 R. N.—Oswald H. Sykes, Farbank, Honley, Huddersfield.

Class 509.—*Plymouth Rock Hens or Pullets, any other colour.*

460 I.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby.
463 II. & 459 R. N.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey.
464 III.—Oswald H. Sykes, Farbank, Honley, Huddersfield.

Class 510.—*Old English Game Black-Red Cocks or Cockerels.*

466 I.—A. Slater, The Old Vicarage, Lythe, Whitby.
465 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
469 III.—R. D. Blight, Totnes.
470 R. N.—Stan. Butler, 16 Blaencuffin Road, Llanhilleth.

Class 511.—*Old English Game Clay or Wheaten Hens or Pullets.*

472 I.—J. H. Baker & Son, Windyash, Barnstaple.
471 II.—R. S. Marsden, Chatburn, Clitheroe.
477 III.—William Telford, Breconside, Brampton, Carlisle.
474 R. N.—Stan. Butler, 16 Blaencuffin Road, Llanhilleth.
H. C.—476.

Class 512.—*Old English Game Cocks or Cockerels, any other colour.*

482 I.—R. D. Blight, Totnes.
487 II.—J. H. Baker & Son, Windyash, Barnstaple.
478 III.—J. R. Crompton, Banstead.
484 IV.—A. Slater, The Old Vicarage, Lythe, Whitby.
491 V.—Edward M. Rowell, The Manor House, Bury, Huntingdon.
483 R. N.—Sir Gomer Berry, Bart., Pendley Stock Farms, Tring.
H. C.—481.

Class 513.—*Old English Game Hens or Pullets, any other colour.*

493 I.—R. S. Marsden, Chatburn, Clitheroe.
496 II.—Edward M. Rowell, The Manor House, Bury, Huntingdon.
499 III.—Stan. Butler, 16 Blaencuffin Road, Llanhilleth.
501 IV.—William Telford, Breconside, Brampton, Carlisle.
498 R. N.—R. Lord, 17 Gale Street, Whitworth Road, Rochdale.
H. C.—494.

Class 514.—*Indian Game Hens or Pullets.*

508 I.—J. H. Baker & Son, Windyash, Barnstaple.
504 II.—W. D. Hesketh, Highfield, Lostock Gralam, Northwich.
509 III.—Edward Lawrenson, Greenbank Farm, Whitley, Warrington.
503 R. N.—Miss W. B. Young, 1 Oxford Street, Woodstock.
H. C.—507.

Class 515.—*Indian Game Hens or Pullets.*

517 I.—J. H. Baker & Son, Windyash, Barnstaple.
518 II.—Edward Lawrenson, Greenbank Farm, Whitley, Warrington.
515 III.—W. D. Hesketh, Highfield, Lostock Gralam, Northwich.
516 IV.—Cecil Brent, Clampit, Callington.
511 R. N.—R. S. Marsden, Chatburn, Clitheroe.
H. C.—513.

Class 516.—*Minorca Cocks or Cockerels.*

521 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
522 II.—E. H. Ashworth, Higher Whalley Banks Farm, Whalley, Blackburn.
523 III.—Alfred Dodd, The Grove Poultry Farm, Shavington, Crewe.
524 R. N.—S. E. Parker, 466 Bloxwich Road, Leamore, Walsall.
H. C.—525. C.—520.

Class 517.—*Minorca Hens or Pullets.*

526 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
531 II.—S. E. Parker, 466 Bloxwich Road, Leamore, Walsall.
527 III.—Alfred Dodd, The Grove Poultry Farm, Shavington, Crewe.
528 R. N.—Abbot Bros., Thuxton, Norwich.
H. C.—529. C.—532.

Class 518.—*White Leghorn Cocks or Cockerels.*

535 I.—R. Anthony, Euxton, Chorley, Lancs.
534 II.—F. J. Phillips, Boringdon, Lee Moor, Cornwood.
536 III.—R. W. Keen, Castle Eden.
533 R. N.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.

Class 519.—*White Leghorn Hens or Pullets.*

538 I.—R. Anthony, Euxton, Chorley, Lancs.
539 II.—F. J. Phillips, Boringdon, Lee Moor, Cornwood
537 III.—Mrs. Metcalfe, Friar Cote Poultry Farm, Streatlam, Barnard Castle.
540 R. N.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
H. C.—541. C.—542.

Class 520.—*Leghorn Cocks or Cockerels, any other colour.*

544 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
550 II.—H. Law, 56 St. Peter's Road, Doncaster.
547 III.—Alfred Goddard, Clarendon House, Mossley, Manchester.
540 R. N.—J. Densham, Cleveland Cottage, Eston, Yorks.
H. C.—545. C.—551.

Class 521.—*Leghorn Hens or Pullets, any other colour.*

556 I.—R. Anthony, Euxton, Chorley, Lancs.
559 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
563 III.—Walter Potts, Abbotsford, Godley, Cheshire.
554 R. N.—Mrs. Frank Bunker, Boarscroft, Long Marston, Tring.
H. C.—562. C.—555.

Class 522.—*Ancona Cocks or Cockerels.*

572 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
566 II.—J. H. Baker & Son, Windyash, Barnstaple.
568 III.—George Goodall, Christleton, Chester.
570 R. N.—R. Anthony, Euxton, Chorley, Lancs.
H. C.—573. C.—569.

Class 523.—*Ancona Hens or Pullets.*

582 I.—T. Davies, Llanddelw, Llandyssul.
579 II.—George Goodall, Christleton, Chester.
576 III. & 580 R. N.—R. Anthony, Euxton, Chorley, Lancs.
H. C.—575. C.—578.

Class 524.—*Campine Cocks or Cockerels.*

586 I. & R. N. for Special.—John S. Appleton, 70 Arden Street, Earlsdon, Coventry
588 II.—W. A Slocock, Goldsworth Orchard, St. John's, Woking.
584 III.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
585 R. N.—Miss M. E. Ragg, 114 Church Road, Upper Norwood.
H. C.—583. C.—590.

Class 525.—*Campine Hens or Pullets.*

595 I. & Special.—John S. Appleton, 70 Arden Street, Earlsdon, Coventry.
591 II.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
597 III.—David J. Jones, Tycock Farm, Ammanford.
593 R. N.—W. A. Slocock, Goldsworth Orchard, St. John's, Woking.
H. C.—592. C.—594.

Class 526.—*Bresse Cocks or Cockerels.*

599 I., 601 II. & 602 R. N.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on Thames
600 III.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.

Class 527.—*Bresse Hens or Pullets.*

605 I.—R. S. Marsden, Chatburn, Clitheroe.
608 II.—Mrs. A. M. Pape, Shrewton House Poultry Farm, Shrewton.
604 III. & 609 R. N.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on-Thames.
H. C.—603.

Class 528.—*White Silkie Cocks or Cockerels.*

623 I. & 615 II.—Mrs. A. M. Hall, The Gables, Ruyton XI Towns, Shrewsbury.
618 III.—James Lilburn, Craigforth, Earlsferry, Elie, Fife.
619 R. N.—Mrs. A. C. Campbell, Cambridge Villa, St. Ives, Ringwood.
H. C.—620. C.—612.

Class 529.—*White Silkie Hens or Pullets.*

630 I.—Mrs. A. M. Hall, The Gables, Ruyton XI Towns, Shrewsbury.
638 II. & 632 III.—James Lilburn, Craigforth, Earlsferry, Elie, Fife.
637 R. N.—Mrs. Fentiman, 186 Whitworth Road, Swindon.
H. C.—635. C.—634.

Class 530.—*Silkie Cock, Cockerel, Hen or Pullet, any other colour.*

645 I. & 640 III.—Mrs. A. M. Hall, The Gables, Ruyton XI Towns, Shrewsbury.
642 II. & 646 R. N.—James Lilburn, Craigforth, Earlsferry, Elie, Fife.
H. C.—643.

Class 531.—*Cocks, any other distinct variety, Bantams excepted.*

653 I.—J. H. Baker & Son, Windyash, Barnstaple. Malay.
649 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead. Hamburgh.

656 III.—Sam Marson, 20 Bar Lane, Bolton. Polish.
650 IV.—Alfred Golledge, High Street, Caerleon, Mon. Modern Black-Red Game.
651 R. N.—Abbot Bros., Thuxton, Norwich. Andalusian.
H. C.—652.

Class 532.—*Cockerels, any other distinct variety, Bantams excepted.*

664 I.—The Hon. Mrs. Ronald Greville, D.B.E., Polesden Lacey, Dorking. Malay
661 II.—H. Hough-Watson, Braystones House, Beckermet. Silver Polish.
662 III.—T. Porritt, Brockholes House, near Huddersfield. Modern Langshan.
660 R. N.—W. Bentley, Timinetts, Honley, Huddersfield. Hamburgh.
H. C.—663.

Class 533.—*Hens, any other distinct variety, Bantams excepted.*

668 I.—Abbot Bros., Thuxton, Norwich. Andalusian.
666 II.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey. Polish.
673 III.—George Firth, Straits Lane, Read, Blackburn. Modern Game.
667 IV.—A. J. Major, Ditton, Langley, Bucks. Scots Dumpie.
665 V.—H. Heath, Pickford Poultry Farm, Moneyash Road, Bakewell. Redcap.
669 R. N.—Joseph Pickerill, Moorside, Madeley, Crewe.
H. C.—675.

Class 534.—*Pullets, any other distinct variety, Bantams excepted.*

678 I.—H. Hough-Watson, Braystones House, Beckermet. Buff Polish.
679 II.—T. Porritt, Brockholes House, near Huddersfield. Modern Langshan.
680 III.—W. Bentley, Timinetts, Honley, Huddersfield.

Class 535.—*Utility Poultry. White Wyandotte Cocks or Cockerels.*

693 I.—J. D. Beak, Maiden Bradley, Frome.
689 II. & 682 III.—A. Aspinall, Broad o' th' Lane, Shevington, Wigan.
684 IV.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
692 V.—Alfred Dodd, The Grove Poultry Farm, Shavington, Crewe.
687 R. N.—Eveline W. Jenkins, Great Barton, Bury St. Edmunds.
H. C.—694. C.—696.

Class 536.—*Utility Poultry. White Wyandotte Hens or Pullets.*

707 I. & 702 III.—J. D. Beak, Maiden Bradley, Frome.
705 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
708 IV.—William Hamnett, Myrtle Poultry Farm, Blackpool.
699 V.—Roy N. Corner, Wellington Poultry Farm, near Hereford.
713 R. N.—Alfred Dodd, The Grove Poultry Farm, Shavington, Crewe.
H. C.—714, 716. C.—703, 712.

Class 537.—*Utility Poultry. White Leghorn Cocks or Cockerels.*

718 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
721 II.—R. Anthony, Euxton, Chorley, Lancs.
724 III.—E. H. Ashworth, Higher Whalley Banks Farm, Whalley, Blackburn.
722 IV.—A. Aspinall, Broad o' th' Lane, Shevington, Wigan.
719 V.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
725 R. N.—Black Lake Poultry Farm, Egham.

Class 538.—*Utility Poultry. White Leghorn Hens or Pullets.*

740 I.—William Hamnett, Myrtle Poultry Farm, Blackpool.
736 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
733 III. & 739 R. N.—H. H. Underwood, Rosedale, Papplewick Lane, Linby, Nottingham.
731 IV.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
744 V.—Black Lake Poultry Farm, Egham.
H. C.—742.

Class 539.—*Utility Poultry. British Rhode Island Red Cocks or Cockerels.*

749 I.—G. H. Muzzlewhite, Redlands, Tavistock.
745 II.—Miss W. B. Young, 1 Oxford Street, Woodstock.
756 III.—William Hamnett, Myrtle Poultry Farm, Blackpool.
747 IV.—W. R. Abbey, Croft Farm, Hessay, York.
746 V.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
750 R. N.—Mrs. Metcalfe, Friar Cote Poultry Farm, Streatlam, Barnard Castle.
H. C.—752.

Class 540.—*Utility Poultry. British Rhode Island Red Hens or Pullets.*

764 I.—William Hamnett, Myrtle Poultry Farm, Blackpool.
760 II.—W. H. Farnell, Hazlecroft Poultry Farm, Fairfield, Buxton.
759 III. & 766 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
768 IV.—Mrs Metcalfe, Friar Cote Poultry Farm, Streatlam. Barnard Castle.
H. C.—767. C.—761.

Class 541.—*Utility Poultry. Sussex Cocks or Cockerels, any colour.*

771 I.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
770 II.—William Hamnett, Myrtle Poultry Farm, Blackpool.
776 III.—F. Fare, Fir Tree Farm, Crossmoor, Kirkham.
775 IV.—R. Anthony, Euxton, Chorley, Lancs.
777 R. N.—J. H. Baker & Son, Windyash, Barnstaple.
H. C.—773.

Class 542.—*Utility Poultry. Sussex Hens or Pullets, any colour.*

779 I.—Mrs. Metcalfe, Friar Cote Poultry Farm, Streatlam, Barnard Castle.
784 II.—John A. Dewar, Homestall Poultry Farm, East Grinstead.
786 III.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.
789 IV.—F. Fare, Fir Tree Farm, Crossmoor, Kirkham.
783 R. N.—W. H. Brady, Glan-y-Coed, Penmaenmawr.
H. C.—782. C.—787.

Class 543.—*Utility Poultry. Cocks or Cockerels, any other variety.*

802 I.—Mrs. E. Mills, Woodford Hall, Milton Damerel, Devon. Croad Langshan.
800 II.—J. Cooke, Littlemoor, Queensbury, Bradford. White Orpington.
790 III.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on-Thames. Australorp.
795 IV.—Mrs. Norman Parish, The Heath, Wilmslow. Welsummer.
798 V.—E. H. Ashworth, Higher Whalley Banks Farm, Whalley, Blackburn. White Minorca.
809 R. N.—C. Richards, Model Farm, Crewe Green, Crewe. Barnevelder.
H. C.—791, 792, 805. C.—793.

Class 544.—*Utility Poultry. Hens or Pullets, any other variety.*

820 I.—Norman M. Grant, M.B.E., Mill Lane Poultry Farm, Green World, Copthorne Sussex. Barred Wyandotte.
816 II.—George Goodall, Christleton, Chester.
829 III.—William Hamnett, Myrtle Poultry Farm, Blackpool
812 IV.—Lady Burke, Henley Pedigree Poultry Farm, Henley-on-Thames. Australorp.
810 V.—A. J. Major, Ditton, Langley, Bucks. Dorking.
814 R. N.—Mrs. Norman Parish, The Heath, Wilmslow. Welsummer.
H. C.—811, 821. C.—815, 818, 824.

Class 545.—*Aylesbury Drakes or Ducks.*

830 I. & 832 II.—James Longson & Sons, Buxton Road, Chapel-en-le-Frith.
831 III.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes.

Class 546.—*Rouen Drakes or Ducks.*

835 I. & 833 II.—R. Anthony, Euxton, Chorley, Lancs.
834 III.—Abbot Bros., Thuxton, Norwich.

Class 547.—*White Indian Runner Drakes or Ducks, bred prior to* 1930.

839 I.—James H. Smith, Peets Farm, Southport.
840 II.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
838 III.—W. J. Hewitt, Woodbine, Littlethorpe, Ripon.
837 R. N.—Abbot Bros., Thuxton, Norwich.
C.—836.

Class 548.—*White Indian Runner Drakes or Ducks, bred in* 1930.

841 I. & 844 II.—Fred Argo, Bructor Farm, Inverurie.
842 III. & 845 R. N.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.

Class 549.—*Indian Runner Drakes or Ducks, any other colour, bred prior to* 1930.

852 I.—Mrs. W. G. Jacka, Ninnis, Germoe, Marazion.
846 II.—W. J. Hewitt, Woodbine, Littlethorpe, Ripon.
851 III. & 847 R. N.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
H. C.—848. C.—849.

Class 550.—*Indian Runner Drakes or Ducks, any other colour, bred in* 1930.

854 I.—R. Anthony, Euxton, Chorley, Lancs.
856 II.—W. J. Hewitt, Woodbine, Littlethorpe, Ripon.
858 III.—Harry Jackson, Church View, Salesbury, Blackburn.
857 R. N.—J. G. Martin, The Willows, Chapel-en-le-Frith.
H. C.—853. C.—859.

Class 551.—*Magpie Drakes.*

864 I. & Special & 861 II.—R. Barker, Lodge Poultry Farm, Long Eaton, Nottingham.
863 III. & 860 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
C.—862.

Class 552.—*Magpie Ducks.*

866 I. & R. N. for Special & 868 III.—R. Barker, Lodge Poultry Farm, Long Eaton, Nottingham.
867 II.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey.
865 R. N.—Miss Mary F. Williams, Scorrier Dairy, Scorrier.

Class 553.—*Drakes, any other variety.*

874 I.—W. H. Cook (Orpington), Cook's Poultry Farm, Orpington. Blue Orpington.
873 II.—A. J. Major, Ditton, Langley, Bucks. Muscovy.
875 III.—William Richardson, 40 Bootham Crescent, York. Cayuga.
872 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey. Stanbridge White.
H. C.—870. C.—871.

Class 554.—*Ducks, any other variety.*

880 I.—Col. R. S. Williamson, The Grange, Rawnsley, Stafford. Cayuga.
879 II.—John H. Butler, Gatecombe Farm, Flax Bourton, Bristol. Khaki Campbell.
882 III.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey. Stanbridge White.
878 R. N.—G. Clapham, Bowbrook, Shrewsbury. Muscovy.
C.—881.

Class 555.—*Embden Ganders or Geese.*

888 I.—Brogyntyn Estate Co., Brogyntyn, Oswestry.
887 II.—R. Durrant Ives, The Grange, Erpingham, Norwich.
886 III.—Reginald Appleyard, Ixworth, Bury St. Edmunds.
885 R. N.—W. B. Shipman, Croxton Lodge, Branston, Grantham.
H. C.—889.

Class 556.—*Toulouse Ganders or Geese.*

891 I.—Abbot Bros., Thuxton, Norwich.
890 II. & 892 III.—Reginald Appleyard, Ixworth, Bury St. Edmunds.

Class 557.—*Turkey Cocks.*

895 I.—R. Durrant Ives, The Grange, Erpingham, Norwich.
893 II.—Abbot Bros., Thuxton, Norwich.
894 III.—F. Farr, Fir Tree Farm, Crossmoor, Kirkham.
896 R. N.—Brogyntyn Estate Co., Brogyntyn, Oswestry.

Class 558.—*Turkey Hens.*

900 I.—F. Farr, Fir Tree Farm, Crossmoor, Kirkham.
901 II. & 898 R. N.—E. C. Secker, Highfield, Dereham.
899 III.—Abbot Bros., Thuxton, Norwich.

BUTTER-MAKING COMPETITIONS.

Class 1.—*Open to Students who have attended a Course at the Hutton Dairy School or any County Class organised by the Lancashire County Council, and who have not won a First or Second Prize at any Show.*

3 I. (£4.)—Miss Kathleen Dunning, Lancashire County Council Farm, Hutton, Preston.
1 II. (£3.)—Miss M. Bradley, Lancashire County Council Farm, Hutton, Preston.
16 III. (£2.)—Miss L. Tomlinson, Lancashire County Council Farm, Hutton, Preston.
8 IV. (£1.)—Miss C. Mary N. Ingham, Lancashire County Council Farm, Hutton, Preston.
H. C.—5. C.—4.

Class 2.—*Open to Students who have attended a course at the Reaseheath Dairy School or any County Class organised by the Cheshire County Council, and who have not won a First or Second Prize at any Show.*

20 I. (£4.)—Miss Emily Cooper, Cheshire School of Agriculture, Reaseheath, Nantwich.
18 II. (£3.)—Miss Minnie Blissitt, Brook House Farm, Astbury, Congleton.
25 III. (£2.)—Miss Florence Hughes, New House, Cuddington, Malpas.
19 IV (£1.)—Miss D. Bonell, Cheshire School of Agriculture, Reaseheath, Nantwich.
H. C.—22. C.—27.

Class 3.—*Open to Students who have received not less than one month's instruction at any Dairy School and who have not won a First or Second Prize at the R.A.S.E., London Dairy, Bath & West, Royal Counties, Royal Lancashire or Yorkshire Shows.*

Section A.

45 I. (£4.)—Miss C. Mary N. Ingham, Lancashire County Council Farm, Hutton, Preston
42 II. (£3.)—Miss E. Kathleen Holding, Midland Agricultural College, Sutton Bonington, Loughborough.
47 III. (£2.)—Miss Vera Leigh, Lancashire County Council Farm, Hutton, Preston.
46 IV. (£1.)—Miss Cicely Madeline Leigh, Bath Arms Hotel, Minsterley, Shrewsbury.
H. C.—48. C.—49.

Section B.

66 I. (£4.)—Miss L. Tomlinson, Lancashire County Council Farm, Hutton, Preston.
55 II. (£3.)—Miss Kathleen F. H. Pitt, Lancashire County Council Farm, Hutton, Preston.
54 III. (£2.)—Miss Joan Pickering, Cheshire School of Agriculture, Reaseheath, Nantwich.
61 IV. (£1.)—Miss Mary Southern, Lancashire County Council Farm, Hutton, Preston.
H. C.—64. C.—60.

Class 4.—*Open, except to Champions at the Royal Agricultural, London Dairy, Bath and West, Royal Counties, Royal Lancashire or Yorkshire Shows.*

Section A.

69 I. (£5.)—Miss L. Cecilia Ball, Wigshaw House, Culcheth, Warrington.
71 II. (£4.)—Mrs. Bolderston, Wotherton Farm, Chirbury.
82 III. (£3.)—Miss Vera Leigh, Lancashire County Council Farm, Hutton, Preston.
84 IV. (£2.)—Miss Kathleen Irene Marshall, Grafton, Flyford, Worcester.
77 V. (£1.)—Miss Rosa Hancock, New Barn, Chulmleigh, Devon.
78 R. N.—Edward R. Hodges, Crowfield Farm, Easton, Wells, Somerset.

Section B.

89 I. (£5.)—Miss Kathleen F. H. Pitt, Lancashire County Council Farm, Hutton, Preston.
91 II. (£4.)—Miss E. M. Robson, Lancashire County Council Farm, Hutton, Preston.
102 III. (£3.)—Miss Constance M. Yarnold, Camp Farm, Brockhampton.
94 IV. (£2.)—Miss Mabel E. Smith, The Lingens, Broadwas-on-Teme.
100 V. (£1.)—Miss Marjorie Voysey, St. George's Hall, The University, Reading.
98 R. N.—Miss Edith Tucker, Lower Tundridge, Suckley, Worcs.
C.—96.

Class 5.—*Championship open to First and Second Prize Winners in Classes 1, 2, 3, and 4, and to First Prize Winners at the Royal Agricultural, London Dairy, Bath and West, or any County Show.*

104 I. (£5, & Gold Medal.)—Miss Mary B. Ashley, Lancashire County Council Farm, Hutton, Preston.
117 II. (£4.)—Miss Mabel E. Smith, The Lingens, Broadwas-on-Teme.
66 III. (£3.)—Miss L. Tomlinson, Lancashire County Council Farm, Hutton, Preston.
118 IV. (£2.)—Miss Mabel K. Stratton, Charlton, Pershore.
109 V. (£1.)—Miss Rosa Hancock, New Barn, Chulmleigh, Devon.
106 R. N.—Miss D. Cane, Hunsdon, Ivybridge, Devon.
H. C.—112. C.—45.

FLOWER SHOW.

Class 1.—*Groups of Miscellaneous Plants.*

1 I. (£45.)—James Cypher & Sons, Queen's Road Nurseries, Cheltenham.
3 II. (£40.)—T. M. Petch, Highfield Nurseries, Great Horton, Bradford.
2 III. (£10.)—W. J. Garner & Son, Altrincham and Hale, Cheshire.
4 IV. (£7.)—J. Allan C. Roy, Cheadle Royal Gardens, Cheadle, Cheshire.

Class 2.—*Two Dozen Bunches of Gladiolus Primulinus.*

[No Entry.]

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8 I. (£20.)—P. Gardner, Craven Nurseries, Addingham, Yorks
10 II. (£15.)—Maurice Prichard & Sons, Ltd., Riverslea Nursery, Christchurch, Hants
7 III. (£10.)—Bowell & Skarratt, Hardy Plant Nurseries, Cheltenham
11 IV. (£5.)—C. H. Taudevin, Ltd., Raby Flower Farm, Willaston-in-Wirral

Class 6.—*Collections of Hardy Perennial Plants and Cut Blooms*

13 I. (£30.)—Bees, Ltd., Sealand Nurseries, Chester.
12 II. (£25.)—William Artindale & Son, Nether Green, Sheffield
15 III. (£20.)—Harkness & Sons, Leeming Bar, Northallerton
C.—14.

Class 7.—*Collections of Lupins.*

17 I. (£15.)—Harkness & Sons, Leeming Bar, Northallerton.

Class 8.—*Collections of Tree Carnations.*

19A I. (£15, & Cup.[1])—C. Engelmann, Ltd., Saffron Walden

Class 9.—*Collections of Cut Sprays of Tree Carnations.*

20 I. (£15.)—Stuart Low & Co., Bush Hill Park, Enfield.

Class 10.—*Collections of Cut Sprays of Border Carnations.*

22 I. (£15.)—Horace Lakeman, Queensberry Nursery, Thornton Heath, Surrey

Class 11.—*Collections of Sweet Peas.*

25 I. (£15.)—E. Leigh & Son, Strongford, Tittensor, Stoke-on-Trent
23 II. (£10.)—G. H. Brookshaw, Stock Lane, Hough, Crewe
24 III. (£5.)—R. Challinor, Bell Farm, Balterley, Crewe.

Class 12.—*Collections of Cut Roses.*

28 I. (£15.)—Frank Cant & Co., Braiswick Rose Gardens, Colchester

Class 13.—*Collections of Sweet Peas.*[2]

31 I. (£15.)—W. Scott, Oversley Nurseries, Styal, Manchester
30 II. (£10.)—Mrs. Mabel Oliver, Motley Bank, Bowdon, Cheshire.

Class 14.—*Collections of Cut Roses.*[2]

32 I. (£15.)—W. J. Garner & Son, Altrincham and Hale, Cheshire

Exhibits not for Competition.

Large Gold Medals to :—

Allwood Bros., Wivelsfield Nurseries, Haywards Heath. Carnations and Allwoodii.
S. Broadhead & Son, Ltd., Wooldale Nurseries, Thongsbridge, Huddersfield. Formal Garden and Rock and Water Garden.
Conways, Ltd., Halifax. Old English Garden and Rockery.
Dickson & Robinson, Cathedral Street, Manchester. Hydrangeas and other flowering plants.
Thomas Robinson, Porchester Nurseries, Nottingham. Roses.
Studley College, Studley, Warwickshire. Fruit and Vegetables.
Sutton & Sons, Reading. Sweet Peas

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Horace Lakeman, Queensberry Nursery, Thornton Heath. Cut Border Carnations.
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Maurice Prichard & Sons, Ltd., Riverslea Nurseries, Christchurch, Hants. Herbaceous and Alpine Plants.
J. Allan C. Roy, Cheadle Royal Gardens, Cheadle, Cheshire. Vegetables.
L. R. Russell, Ltd., Richmond Nurseries, Richmond, Surrey. Stove and Greenhouse Plants
Edward Webb & Sons, Ltd., Wordsley, Stourbridge. Cut Flowers and Flowering Plants.

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[1] Perpetual Challenge Cup, awarded to the First Prize Winner in Class 8.

[2] Prizes given by the Royal Botanical and Horticultural Society of Manchester and the Northern Counties and restricted to Professionals and Amateurs residing within a radius of 20 miles of Manchester Town Hall.

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Hewitt & Co, Ltd., The Nurseries, Solihull, Warwickshire. Delphiniums and Lupins.
Kent, Brydon & Haigh, Tees Bank Nurseries, Darlington. Delphiniums and Lupins.
Stuart Low & Co., Bush Hill Park, Enfield. Orchids and Malmaison Carnations.
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Caldwell & Sons, The Nurseries, Knutsford. Herbaceous Plants and Roses.
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